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TABLE OF CONTENTS.

	PAGE.
Editorial:	
After Election, What?	29
Minor Editorials	30
Edwin Marcus Chaffee as a Rubber Inventor (*Illustrated*)	31
Pure Rubber the Weak Point in Bicycle Tires.....*Gustave Heinsohn*	33
The Law Relating to Accidents in Factories	35
Brief Abstracts of Recent Rubber Patents	36
New Goods and Specialties (*Illustrated*):	
The Tyrian Maroon Water Bottle	39
The Vim Wood Rim Cement	39
The Blue Grass Tire	39
The G. & J. Steam Vulcanizer	39
The Collapsible Minnow Pail	39
A Rubber Health and Massage Roller	39
The Farrand Tire Brush	40
Pneumatic Soled Shoes	40
An Aseptic Injector	40
The Common Sense Nozzle	40
The American Bull Dog Rubber	40
The Bedford Waterproof Duck Reefers	41
The "Common Sense" Repair Kit	41
The Spot Cash Vulcanizer	41
The Snow Defier	41
Letters to the Editor	45
The Rubber-Men and Sound Money (*Illustrated*)	48
Miscellaneous:	
The Navigation of the Amazon	30
"Bad Weather Coming" Says the Prophet	34
A Rubber-Factory's Fire System	38
Two Thousand Kinds of Rubber Shoes	42
To Manufacture Pneumatic Tires	42
Fire in a French Rubber Factory	42
The Bull-Dog Shape in Rubber Shoes	43
The Marvel Rubber Co. Closing Out	43
Are Figured Gossamers to Be Revived?	43
Random Notes From Para.....*Grao Para*	44
Mr. Chester J. Pike (*With Portrait*)	44
Is Our Trade with Africa Doomed?	46
Canada Makes a Good Showing	46
Another Rubber Shoe Factory for Canada	46
American Gains in Europe	47
End of the Sterling Rubber Co	47
The Amount of Rubber Used in Tires	47
The Trading in Rubber Stocks	47
Trade and Personal Notes	49
Review of the India-Rubber Market	52

AFTER THE ELECTION, WHAT?

IT is not in the nature of things for trade and industry to remain long depressed in a country so favorably circumstanced as the United States, and since the late paralysis of business has been based more on sentimental than upon substantial grounds, it is as well that the date of the elections just past should be accepted as the proper time from which to measure a new era of prosperity. A presidential election is about the only event in this country which appeals at one and the same time to the whole population, and the interest felt in the result is often so great as to cause other affairs to be overlooked and come to a standstill. On general principles, the sense of relief which follows the tension of a long-drawn-out political contest ought to be favorable for a renewal of devotion to business concerns.

In the present instance there is greater reason than usual for a feeling of relief after election, on account of the decisive victory for common honesty which has been won in a contest not properly to be described as partisan, since people of all parties united in combating vicious theories which long had been making an insidious growth in the minds of multitudes. While political discussion, in the ordinary sense, is foreign to the scope of THE INDIA RUBBER WORLD, we cannot forbear at this time an expression of satisfaction at this great popular protest against repudiation as the policy of the nation and of the business community. A return to the honest old-fashioned idea that a dollar should be worth a dollar is surely the best basis for the restoration of "confidence" for which so many hopes have been expressed.

There is danger, however, that some people, becoming too confident, will find themselves disappointed in time because business has not improved as much as they had expected. Doubtless there are those who will be satisfied with nothing short of an apparent prosperity equal to or greater than the highest point reached at any time in the past. But periods of exceptional prosperity have their limits as well as periods of depression, and are no more to be taken as the proper measure of business conditions. What is most to be desired is a long continuance of normal conditions, under which the manufacture of honest goods will bring fair returns. Anything in the nature of a "boom" is apt to tempt successful people to ignore prudent considerations, and to bring into the field an undesirable class of competitors.

Not only is the right standard to be kept in mind for measuring the degree of business prosperity looked for, but the improvement must not be expected all at once. So far as the immediate meaning of the election is concerned, it is that there is to be no impairment of obligations or lessening of fixed incomes through the debasement of the dollar. But the necessity still rests upon the government to provide itself with sufficient revenues, in lieu of which there must be a continuation of bond issues, and of the disturbing features of the treasury gold supply. Involved with the question of revenues is the revision of tariff schedules, which too often disturbs the industrial world.

One other reason why business profits cannot at once take a leap upwards to the normal condition of prosperity is that for some time past prices of most products have fallen too low to afford adequate returns, and the readjustment essential to a sounder condition of trade must come slowly. To this may be added the fact that just now much capital is uninvested, and that some time will be required for it to find profitable channels, in order that the business world may profit from the use of all the capital in the country.

There is, to sum up the situation, every reason to feel encouraged that we shall have in due time a good measure of business prosperity, hastened by the result of the elections, but its coming must be awaited with patience. If its coming is not in the nature of a "boom," so much the better.

THE TIRE MANUFACTURERS DO NOT SEEM to have experienced much difficulty in getting together in an association for regulating guarantees, prices, credits, and the like—points on which agreement among the competing concerns is desirable. We do not hesitate to say that without some such organization the tire industry would have been in danger of becoming so demoralized as to render it unsatisfactory, if not unprofitable, to everybody concerned. Not that the Rubber Tire Association is going to insure plain sailing for everybody who is making tires. But if it accomplishes nothing more than merely to point the way to more thorough organization of the trade it will have done a good work. The need of coöperation in the rubber-tire trade has more than once been pointed out in THE INDIA RUBBER WORLD, and we have been confident that it could be attained without sinking the individuality of the different manufacturers to the same extent as has occurred in the shoe trade through the formation of the United States Rubber Co. No doubt the success of the tire association will be closely watched outside of its membership, since there are other branches of the rubber trade which have as much reason as the tire-manufacturers to wish to dispense with the less desirable features of competition.

RUBBER-MEN AS A DISTINCTIVE CLASS are becoming more and more *en evidence* in business centers throughout the country, as they long have been in New York city. This fact has been emphasized lately by the appearance of representatives of rubber houses in the great "sound-money" parades in Chicago, St. Louis, and elsewhere, and the mention made of them in the newspapers. Every commercial center of importance has its rubber stores nowadays, and while the number of rubber-men in each city may not be large enough to permit of a local rubber trade association, there is no reason why such an organization might not be maintained by the members of the trade in a group of states, as the hardwaremen in some sections of the country have done.

THERE IS REPORTED THIS MONTH the arrival at Antwerp of a steamer from the Congo river carrying upwards of 400,000 pounds of India-rubber, which is more than the total yearly output of Congo rubber not so long ago. By the way, 40 per cent. of the cargoes of Pará rubber received at New York weigh less. At the same rate of growth Antwerp will not need many years to put her in an important rank as an India-rubber market. The output from Africa is bound to increase at a great rate, and the Belgians are well placed to share in the trade in rubber as in all the other products of the dark continent.

THE EXPRESSION OF KINDLY FEELING for the Messrs. Hodgman, coupled with wishes for the speedy termination of their business embarrassment, has been so general in the rubber trade as to merit special mention. They seem to have won the esteem even of their closest competitors, among other reasons, on account of their consistent policy of laboring to maintain fair prices on all lines of goods sold by them.

ALL THE TALK ABOUT COMPETITON in the rubber-shoe industry has not prevented a substantial rise in "Rubber" stocks of late. They have gone up in fact, on the eve of inauguaration of work by the Messrs. Banigan and Hood, in the extensive factories recently equipped by these gentlemen. Evidently there is no fear on the part of investors or speculators that the business is about to be overdone.

THE NEW TARIFF LAW of the Argentine republic provides for an *ad valorem* duty of 2½ per cent. on imports of crude India-rubber. We cannot imagine the object, unless it should be to encourage the planting of rubber-trees of the Florida variety on the house-tops of Buenos Ayres.

THE NAVIGATION OF THE AMAZON.

WITH regard to the new contract between the Amazon Steam Navigation Co., Limited, and the Brazilian government, says *Wilson's Investors' Review* (London), "it is evident that the latter has got the best of it. The directors say the general conditions are similar to preceding ones, but this seems open to question. It is true the subsidy from the Brazilian government—not a very large item—is not reduced, and that the company is permitted to raise rates of freight 30 per cent., and passage money 25 per cent.; but the government has made the company agree to run a considerable number of extra voyages on the Rio Madeira and Rio Purús lines, and also to establish a new monthly service on the Rio Araguary. So that, while the government has done the best it could for itself in demanding the extra services, the company is left to extract the money to cover the additional cost and trouble out of shippers and passengers. Such an arrangement cannot be beneficial to the company's interests, and, therefore, as it last year failed to earn sufficient, apart from the subvention, to cover expenses, its share cannot, as yet, be considered a promising investment."

Meanwhile competing lines on the Amazon have been making headway. The latest is the Companhia Continental, a German company, having its headquarters in Pará, intended for the service of the principal tributaries of the Amazon. A new bimonthly service has also been established between Pernambuco and Manáos. Some trade will also be taken from the English company by the new line owned by the Messrs. Mourailles, between Iquitos and Liverpool, touching at Havre and Lisbon. Finally, the state of Pará has granted a concession and subvention for the establishment of a line of steamers from Mediterranean ports to the city of Pará, with authority to extend the service to Manáos. It may also be mentioned that a concession has been granted by the Brazilian and Colombian governments to a German company, having its offices at Pará, for the purpose of navigating the Içá (Pilcamayo) river.

An indication of the future development of the traffic on the upper Amazon is that Señor Billinghurst, vice-president of Peru, has asked the authorization of his congress to grant an annual subvention of $37,500 to the Amazon Telegraph Co., in order to induce it to extend its cable to Iquitos.

EDWIN MARCUS CHAFFEE AS A RUBBER INVENTOR.

A Co worker with Charles Goodyear.

GOODYEAR'S notable invention valuable as it was, was not altogether a success at first because because of the mechanical difficulties that presented themselves in handling a gum as intractable as crude India-rubber. Hancock in England by a series of inventions overcame this difficulty and solved the mechanical problem. In the United States it was solved in an entirely different way and in a manner that American manufacturers believe to have been more practical. This important work was done by Edwin Marcus Chaffee. In reviewing his work it is but just that a brief sketch of the man himself should appear. The Chaffee family came to America from Wales somewhere about 1630. One of their descendants, Jonathan Chaffee, was lieutenant in the patriot army in the revolutionary war and fought at the battle of Lexington. His grandson, Edwin, is the subject of this article. Mr. Chaffee had little education beyond the common schooling which he secured at South Wilbraham, Mass. Early in 1828 he began work in the patent leather business in Boston, where he was associated with John Haskins. During the winter of 1831 he removed to Roxbury, still working as a finisher of patent leather. About this time his attention was called to India-rubber, and he experimented with it in the then popular fashion of dissolving it in spirits of turpentine. Later he discovered that by adding lamp black it was improved. In 1832, he invented a small machine for coating cloth that would spread about ten yards at a time. Soon after that he coated some cloth and solarized it, bringing out what was then considered a most excellent and valuable article. Mr. John Haskins, Luke Baldwin, and Mr. Chaffee then secured a small building on Dudley street, Roxbury, into which Mr. Chaffee moved his spreading machine and continued his experiments. In the winter of 1833 it was determined to put the concern into a stock company, and a few influential citizens of Roxbury looked into the subject and at once subscribed the sum of $30,000 as capital stock. The first act of incorporation of the company which was known as the Roxbury Rubber Co., was dated February 1833. The capital was afterwards increased to $240,000, in 1834, and again to $300,000 in 1835. During these three years the Roxbury Rubber factory was to all appearances going on prosperously, the stock continually rising, and the excitement at length became so great that factories were started in Boston, Chelsea, Framingham, Salem, Lynn, and other places. The operatives of the Roxbury Rubber Co. were placed under bonds not to divulge any of the secrets in the arts practiced there, which resulted in their being continually beset with liberal offers of money and situations to reveal what was going on. In 1835, Mr Chaffee informed the directors of the company that he could save them a large portion of the solvent which they had been using by the old process which, by the way, cost them about $50,000 a year. The suggestion was of course received with a great deal of enthusiasm, the result being that the stock rose to nearly double its former value.

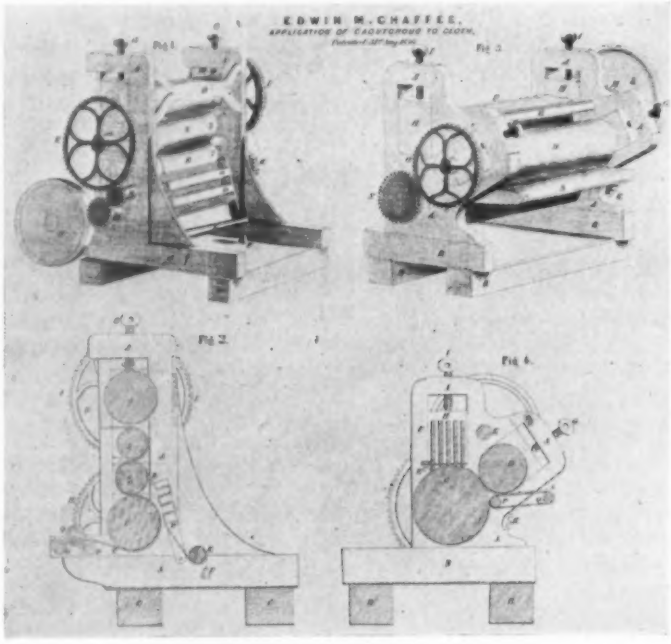
EDWIN M. CHAFFEE.

He was instructed to build the necessary machinery with dispatch, which he did, and a little over one year later brought out what was known as the "monster" machine. Of equal interest to the rubber trade were the grinders produced at the same time although the monster seems to have attracted the most attention. These machines were set up and when in running order realized all that was expected of them. Just at that time, however, it dawned upon the stockholders and the world at large, that the ideal process for handling crude rubber had not yet been discovered, in other words, the world was waiting for Goodyear. Soon after this, came the closing up of the Roxbury company, the selling of the machinery and factory and the purchase of the monster at auction in the fall of 1843 by John Haskins. The same far sighted gentleman purchased at this rate the Chaffee patents on the calender and grinders for *six dollars*. A little later when Goodyear had proved the value of his "metalized rubber" this machine and a portion of the buildings were bought by him for experimenting, and from that time on both the grinders and the monster were run continually and successfully. Until quite recently, by the way, this machine was run in Roxbury at the factory of the Boston Belting Co.

Personally Mr Chaffee was a grave, studious man of few words, but a deep thinker. He married in 1830 Sarah A. Simpson, daughter of Dr. Wm. Simpson, of Boston, and was the father of eight children. Later in life, when he had accumulated wealth, he became partner in the firm of Bourne, Brown & Chaffee, and was also a director and of-

ficer in the National India Rubber Co. At that time he lived in Providence in the old homestead known as the Halsey House. In 1855, his two sons, Edwin W., and Wm. D., went to South America in the interests of the India-rubber trade. They were both young men of promise, and after accomplishing their purpose, when about to start for home, were taken ill with fever, William dying there while Edwin returned home an invalid and died a few years ago. In later years, through an adverse lawsuit, the firm in which he was partner were obliged to pay out each $120,000 of the money which they had accumulated. This obliged Mr. Chaffee to give up his beautiful home, but in no part of his career did he show more courage and strength of character than in the way he accepted this reverse, doubly hard to bear as it was coming at the close of life. Mr. Chaffee died in Bristol, R. I., in 1872.

The old print drawn by Mr. Chaffee with his own description of the first calender and grinder are of especial interest in connection with this brief view of his life.



"The India-rubber undergoes an operation, preparatory to its being applied to cloth and other articles, and the following is a description of that part of the machinery and apparatus (the grinder) employed for the purpose: A hollow cylinder or roller 6 feet long and 27 inches in diameter, heated by steam or otherwise to about 200 degrees of Fahrenheit, is surmounted by another cylinder of like length, and heated in like manner, and 18 inches in diameter. The large and small cylinders come in contact with each other on one side, at about 10 inches distant from the top of the large one. The large cylinder revolves much faster than the small one, so that there is a compound rolling and slipping action between the cylinders. Five bars are placed on the top of the large cylinder, side by side, leaving a space of about three-fourths of an inch between them. The bars are 1¼ inch thick, 12 inches wide, and about 6 feet long. The edges which lie in contact with the cylinder are convex or circular, and so constructed that when one corner of the edge touches it, the other recedes from it, thus leaving a wedge-like space for the rubber to enter beneath the bars. What I mean by the corner of the edge is, the angles formed by the two sides of the bars and their circular edges, the one being an acute and the other an obtuse angle, which are more or less acute or obtuse according to their situation on the cylinder—the bars being substitutes for so many cylinders—but one better to sifting the coloring between them; they are held in contact with the cylinder, or nearly so, by weights or screws arranged for the purpose. If the rubber is to be colored, the coloring matter, in fine powder, should be sifted or otherwise put into the spaces between the bars, where it will be incorporated with the rubber as it passes between the bars and the cylinders. A revolving apron is attached to the machine which carries the rubber between the two cylinders, or a plank may be substituted, if placed nearly in contact with the under side of the small cylinder, and the rubber put on in contact with the cylinders.

"The operation of the foregoing apparatus is as follows: The rubber is first cut into pieces about two inches square, and from one-eighth to one-fourth of an inch thick; it is then spread upon the apron that conveys it to the cylinder, where the compound rolling and slipping action of the heated cylinders softens and tears the rubber into fine shreds or thin sheets, which at the same time mixes with the coloring, which is sifted into the spaces between the bars; thus it passes all the bars successively, and undergoes this operation several times before it goes from the preparing and coloring part of the machine to the coating or covering part of the machine.

"The coating or covering part of the machine or apparatus for applying the prepared rubber to the cloth and other articles (the calender), consists of four hollow cylinders, six feet long, heated by steam or otherwise to about 200 degrees of Fahrenheit, placed one above another. For conveniently describing their operation I number them 1, 2, 3, and 4, beginning at the bottom. No. 1 is eighteen inches in diameter: Nos. 2 and 3 are each one foot in diameter, and No. 4 is eighteen inches in diameter; No. 3 moves much slower than the others, thus creating a compound rolling and slipping action between the surfaces of No. 2 and No. 3, and also between No. 3 and No. 4; sometimes the three first cylinders only are used, in which case the gearing for driving the 4th cylinder is disengaged, and the cloth or other article to be coated is made to pass into the covering machine between the 2d and 3d cylinders, thence it passes half round the 2d and 1st cylinders, the rubber side coming in contact with the first and passing nearly round it, whence it is taken off and rolled

up. The prepared rubber is conveyed, by hand or otherwise, from the preparing part of the machine whilst warm, and put into the hopper, which is placed between the 2d and 3d cylinders to receive it. The hopper is about two inches narrower than the cloth or other article intended to be coated. The cloth enters between the bottom and the 2d cylinder, whilst the rubber enters between the bottom and the 3d cylinder, where the coating of the cloth is affected. There is advantage in passing the rubber between the 3d and 4th cylinders of the coating part of the machine before it comes in contact with the cloth which warms and softens it, so that it will adhere better to the cloth to which, also, the rubber is presented more uniformly than when promiscuously put into the hopper. I sometimes put the prepared rubber directly upon the cloth or other articles to be covered between the 2d and 3d cylinders, and then disengage the gearing of the third cylinder, which will not then revolve; the bottom of the hopper in this case does not enter so far between the cylinders; the sides of the hopper must in all cases enter as far as possible without being pinched by the cylinders, to which they must be well fitted. Another mode of using this machine is as follows: The rubber alone enters between the 2d and 3d cylinders, where it is formed into a sheet which passes half round the second; the cloth entering at the same time between the 2d and 1st, where the sheet of rubber is transferred from the cylinder to the cloth, then passing nearly round the 1st cylinder, where it is taken off and rolled up as before. In coloring I sometimes make the rubber into sheets, apply the coloring, and roll the same into a mass, and then pass it through the cylinders, repeating until sufficiently colored. Again, I mix the coloring with small pieces of rubber, and let them both go between the cylinders, or cylinder and bars together, mix more, and repeat until sufficiently colored, when it goes between a bar and cylinder, or between two cylinders, one going faster than the other; the rubber comes through in fine particles so long as the coloring is added."

PURE RUBBER THE WEAK POINT IN BICYCLE TIRES.

By Gustav Heinsohn.

THE manufacture of pneumatic tires is still the most unsatisfactory branch of the India-rubber industry. The profits on tires have been far from commensurate with the extent of their production or with their advertised prices. No other line of rubber products has taxed the ingenuity of inventors so sorely, and in none have investors spent money more liberally, but the great desideratum—a tire that will surely last for years—is yet to be attained. When it was said that the linen fabric at first used was at fault, everybody turned to cotton; then every conceivable type of fabric was tried, until a single cotton-mill had produced more than 700 different "weaves" for tires; there have been different methods of vulcanization and differences in every other particular, to say nothing of all the repair devices and appliances, and yet so many tires have been returned to the manufacturers to be replaced that every man in the trade is heartily sick of the guarantee system.

Yet it may be asked whether the cycling public would be justified in paying standard prices for pneumatic tires without a guarantee. And why should the guaranteeing of tires bring the manufacturers to the brink of ruin if their products meet the representations under which they are sold? The courts have held that a vendor, even where he broadly guarantees his goods, must be presumed to intend nothing more than to warrant satisfactory wear under proper and usual conditions. Conversely, it would seem that a dealer who sells without a specific guarantee may be held responsible if his wares are not as represented. Still, no doubt the tire guarantees have been construed too liberally and the Rubber Tire Association is justified in regarding this as the greatest problem confronting it at the outset. But no agreement as to the form of a guarantee will make this season's tires good for next year's use.

It is all in the rubber. Not that the use of pure rubber will alone fill the bill, even if it be fine old upriver Pará. It must be remembered that India-rubber is a vegetable substance, with deterioration as its first law, operative from the day that it leaves the forest.

These considerations are in part those of a successful rubber-factory superintendent, whose counsel has always been against the conduct of the pneumatic-tire industry on the present basis. "It is almost impossible," he asserts, "to make of India-rubber a bicycle-tire that will long be serviceable. It may wear well all this season and give way the first time it is brought out after having been stored for the winter. No sign of collapse may be apparent so long as it is in use, but while it is out of use the granulation or oxidation of the rubber will go on, rendering the rubber porous and no longer air-tight. I know that learned papers have been written on the causes of porosity, charging it to the presence in the compounds of impurities, or to the combination of chemicals in the production of gases, and so on. But the simple truth is that the sulphur used in vulcanizing India-rubber, either with or without the presence of other ingredients, begins immediately to effloresce, and continues to do so as long as any sulphur remains, and pores take the place of the sulphur. There is the whole story. When the sulphur is gone, and the rubber has become porous, the once smooth surface of the rubber tire is rough, somewhat like leather which is beginning to break, one's finger may easily be pushed through it, and it is properly called rotten. If the 'bloom' of the sulphur were kept constantly brushed off the tire might wear longer, because the presence of the sulphur on the surface hastens the oxidation of the rubber. So long as the tire is in use the 'bloom' is kept rubbed off, but while the wheel is stored the work of oxidation proceeds without interruption, and by springtime the tire probably has rotted. Haberdashers who understand their business have

some sort of realization of this property of India-rubber, and if they have a lot of suspenders of slow sale they take them out of the boxes now and then to give them a thorough stretching, which corresponds to the exercise of a bicycle-tire and the consequent prolonging of its life."*

This talk with the rubber-factory superintendent recalls the specification of an English patent granted in 1849 to William Henry Burke, for an improved method of vulcanizing rubber. In describing the object of his invention he said :

"From the nature of the process used in its preparation, the vulcanized India rubber is subject to two great defects: firstly, in consequence of the sulphur being employed in a free state, a portion of that substance is continually efflorescing, thereby covering the surface with a white powder, and imparting a sulphurous odor to every object with which it is brought into contact ; secondly, the sulphur by this efflorescence is liberated from the India-rubber, and is dissipated and lost ; it appears, indeed, that even the quantity supposed to be combined with the India-rubber becomes gradually freed and volatilized, leaving the India-rubber partially rotten, or rather disintegrated."

The remedy proposed by this inventor was the antimony cure, which is still practised. The object of this reference is not to argue in behalf of the use of antimony, but to point out that, within five years after Goodyear's announcement of his discovery of vulcanization, certain shortcomings of that process were clearly pointed out which the rubber industry is still contending with, but in no other branch quite so strongly as in the tire-manufacture.

Twenty-four years ago Professor Arthur W. Wright, in the *American Journal of Science and Art*, reported an independent discovery made by him while experimenting with Holtz's electro-machine. It was that the ebonite (hard-rubber) insulators lost in large degree their insulating power and became conductors, especially if the machine, after much use, had stood for some weeks in the warm weather unused. The process he thus described :

"While the ebonite is undergoing decomposition by the ozone, the oxygen combines with the issuing sulphur to form sulphurous oxide, which with the atmospheric moisture produces sulphurous acid, this in turn being converted into sulphuric acid by the further action of the ozone."

The result of Professor Wright's investigations led to his use of a neutralizing acid, which he applied by rubbing upon the ebonite insulators either oxide or carbonate of magnesium, in fine powder, sprinkled upon chamois skin.

But to return to the superintendent above quoted. The greater the proportion of sulphur used in vulcanizing India-rubber, as shown by his practice, the greater the tendency of the goods to "bloom," and the more rapid and certain their deterioration from this cause. Again, he combats the idea so widely entertained that a larger percentage of sulphur hastens the time of vulcanization. With the smallest percentage of sulphur goes the shortest requirement of time in the vulcanizing-room, and the slightest injury to any fabrics which may be combined with the rubber—*e. g.*, in a bicycle tire. In connection with these details is to be included the use of certain ingredients to neutralize the tendencies above mentioned, if long life of a tire should be desired. But this bars the use of pure rubber, by which is meant rubber in combination with nothing else than the sulphur used in vulcanization. But he is free to admit that this increased durability is gained at the expense of increased weight, though he claims that no decrease in resiliency need result. On the latter point, however, the bicycle trade would likely take issue with him.

One more point relates to the effect of the sun's heat upon bicycle-tires. It may not be known even to everybody in the tire trade that solar heat is sufficient to vulcanize rubber goods, provided too great a proportion of sulphur is not used. Solarization of rubber gossamers was and is still practiced. Excessive exposure of a bicycle to the sun's rays has the effect simply of over-vulcanizing the rubber tires, which hastens the deterioration, accounting for the early giving way of what may have been a product of unexcelled material and workmanship.

Clearly here is a need of a "campaign of education" in two directions. First, manufacturers need to be convinced more clearly of the difference between the demands made upon India-rubber in bicycle-tires and all other demands, to the end that new processes may be sought. Secondly, whoever buys a bicycle should be instructed no less in the properties of rubber and the care of the tires than in how to mount a wheel and stay on it.

*The stand taken by the superintendent in question, while interesting, is not one that will appeal to the better sense or the experience of rubber manufacturers in general. That rubber goods can be so compounded that they will not bloom is well known. At the same time the appearance of this efflorescence of sulphur upon the surface of vulcanized goods is a general indication that they have not been over-cured. Goods that have bloomed, and that remain at rest in a warm, dry place, are quite likely it is true to deteriorate. At the same time it does not agree with our experience that they become porous. The deterioration in question appears in slight surface cracks, due to the oxidation of the surface of the rubber that is exposed to the air. These cracks rarely go very deep, and a tire may preserve all of its wearing qualities and yet be a mass of fine surface cracks. In the course of years it might be that one would be able to push the finger through a tire that had thus become damaged. The case, however, is an extreme one, and never has come within our experience. If bicycle riders wish to preserve their tires during the months they are not in use, the simplest way is to take them off the wheel and store them in a damp, cool place. If it is practicable of course it is well to brush off the bloom and to handle them more or less, but that is not necessary. With regard to the amount of sulphur used in vulcanizing the superintendent certainly says what he does not mean. A quicker cure can be obtained by increasing the proportion of sulphur. That is a fact that admits of no argument. What he probably means to say is this. That it is wise to use a minimum amount of sulphur, and long slow cure in striving for the best results.—THE EDITOR.

"BAD WEATHER COMING," SAYS THE PROPHET.

MR. JOSEPH H. C. SWAN, who lives out in Kansas, and is known as "the sage of the Whitewater," has become famous throughout the West for his correct weather predictions, during last year or two. He gave an absolutely correct forecast of the great St. Louis cyclone and other meteorological phenomena, and this is what he says about the coming winter :

"The winter of 1896-7 will be very long and cold, with much snow in all localities where snow is a factor. Blizzards will be numerous, highways and railways will be blockaded, all to be followed by much rainfall and high water most of the year. Do not be in haste to get in spring crops. Plant large and late varieties of corn. Wet weather will be your trouble. Provide good shelter for yourself and stock and do not forget the suffering, hungry and poor of our land." Moral : don't run short of rubbers.

THE LAW RELATING TO ACCIDENTS IN FACTORIES.

ACCIDENTS are as liable to happen in rubber-factories as in the proverbial best-regulated families, and more apt to involve heavy pecuniary damages. The records of the courts in every rubber-manufacturing center are filled with the details of suits against the factory owners by employés who have been injured while at work. A suit is now pending against the United States Rubber Co., brought by one John Maloney to recover $10,000 for injuries received in the works of the Lawrence Felting Co. (Woonsocket, R. I.) He was struck by a block of wood flying from a press. The National India Rubber Co. (Bristol, R. I.) were sued not long ago for $15,000 by William A. Rawson, an employé, whose hand was injured in a machine in the cutting department. Sometimes these cases are settled out of court, as when suit was brought against the Metropolitan Rubber Co (Wallingford, Conn.) by William Wallace, an employé, for $5000 damages alleged to have resulted while he was engaged in making an excavation under one of the company's buildings. But when these damage suits are tried before a jury the result is usually a costly one. The jury in the case of William Sauer, an employé of the United States Rubber Co. at New Brunswick, N. J., who sued that corporation for $10,000 for damages sustained in an explosion, awarded him $2500. The Woonsocket Rubber Co. were sued by Peter Bjbjian for $30,000, for damages for injuries received while at work in a grinding-mill, resulting in the loss of one arm and the injury of the other. The verdict was in the employé's favor, with an award of $6400, confirmed on appeal by the highest court in the state, which refused to admit that negligence had been shown by the plaintiff while at work.

Such a record might be extended indefinitely, but the cases quoted are numerous enough to suggest that rubber-manufacturers, as well as the managers of industries in general, should be acquainted with the law in relation to accidents, and the responsibility resting respectively upon employer and employé in all situations where the work involves risk. In treatises on law this subject will be found treated under the head of "Master and Servant." The old legal definition is that—

A servant is one who is employed to render personal service to his employer otherwise than in the pursuit of an independent calling, and who in such service remains entirely under the control and direction of the latter.

Since the wide extension of the wages system to labor of every description the courts have decided that "the word *servant* cannot be confined to mere menial service." Hence the law, without a change of phraseology, has come to be applicable to employés in factories, on railways, etc. It does not apply, however, to employés of every class. Thus "the secretary of a corporation, being an officer or agent of the company, is not a servant. Nor is one employed as a superintendent or boss." Another point of interest and importance is this: "The relation of master and servant exists where the latter is employed, not by the master directly, but by an employé in charge of a part of the master's business, with authority to engage assistance therein." One more is that corporations may ordinarily employ and discharge servants the same as a private individual.

Coming more specifically to injuries to employés caused by accident, the question of the assumption of the risks of employment is first to be considered. The general rule is thus stated :*

"When an employé, after having an opportunity of becoming acquainted with the risks of his situation, accepts them, he cannot complain if subsequently injured by such exposure. By contracting for the performance of hazardous duties he assumes such risks as are incident to their discharge. In performing the duties of his place, a servant is bound to take notice of the ordinary operation of familiar natural laws, and to govern himself accordingly. If he fails to do so, the risk is his own. He is bound to use his eyes to see that which is open and apparent to any person using his eyes, and if he fails to do so he cannot charge the consequences upon the master. And this rule applies to minor servants. But a servant does not, of course, assume the risk of any dangers arising from unsafe or defective methods, surroundings, machinery, or other instrumentalities, unless he has, or may be presumed to have, knowledge or notice thereof."

The burden of proving that an injured servant had knowledge of an obstruction or defect before an accident is on the employer. The fact that a plaintiff worked habitually with certain machinery for ten or fifteen months was held to be competent evidence from which a jury might infer that the plaintiff was acquainted with its dangerous character. It has been held that where a servant is killed in working on dangerous premises, furnished by the master, and he knew the condition of the premises, and continued to use them without objection, the master is not liable, as he is not guilty of wilful neglect. It was held in a New York case that a servant accustomed to using machinery cannot recover for an injury received while putting in order a machine she was using by putting her hand too near rollers which she knew to be revolving 3000 times a minute.

Where the person injured was twenty-eight years old, had performed many times the work in doing which he suffered the injury complained of, and was familiar with the machine and danger attending such work, the dangerous side is apparent on ordinary observation, the plaintiff must be taken to have assumed the risk, even if he had acted by order of the foreman, and even if such risk was never explained to him.

"The servant has the right to assume that the machinery and implements furnished him by his master are safe

* *The American and English Encyclopedia of Law*, edited by John Houston Merrill. Vol. XIV, p. 842 *et seq.*

and suitable for the business engaged in. And although an employé assumes all the hazards reasonably incident to the service in which he engages, he has a right to rely on the fact, when placed in a situation of danger, where engrossing duties are required of him, that the employer will not, without proper warning, subject him to other perils unknown to the employé, and from which the work exacted necessarily distracts his attention. And furthermore that the usual precautions against accidents will be taken."

If a master or superior orders an inferior into a situation of danger, and he obeys and is injured, the law will not charge him with assumption of the risk, unless the danger was so glaring that no prudent man would have entered into it. An action cannot be maintained against an employer for accidental injury resulting to a servant from an unexpected cause arising in the course of his employment.

It will readily be inferred from this compilation from legal authorities, without its being extended, that the body of the law referring to the rights, duties, and responsibilities of employers and employés is voluminous and that its principles are far-reaching and even complicated. The subject is not only one which will well repay study, but no prudent employer of a large number of hands will neglect to become acquainted with at least its outlines.

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

THE tire patents for the month past are twelve in number, two of them being devoted to tire-repairers, that may have a certain amount of originality but are suggestive of patents that have before appeared. The most interesting patents to the rubber trade are the method and apparatus for making pneumatic tires, patented by Henry J. Doughty, of Providence. Mr. Doughty, it will be remembered, is the gentleman who was instrumental in developing and perfecting the machines which made the well known "Marvel" shoes, and it is therefore interesting to note the ingenious mold-press that he has designed for tire manufacture. Another patent of interest in tires is one granted to L. K. McClymonds, who assigns it to the New York Belting and Packing Co., of which he is general manager. The third tire patent of interest is the invention of Joseph G. Moomy of Erie, Pa., who assigns one-half of it to the Combination Roll and Rubber Co., of Bloomfield, N. J.

In mechanical goods there is patented a new type of hose mender; a hose nozzle, this latter by the way being the invention of John R. Freeman, the well-known fire-hose expert; two lawn sprinklers, both the inventions of critizens of Grand Rapids, Mich. An anti-friction packing, an oil well pump packing, and a combined packing valve. Quite an interesting patent in mechanical goods is that of a stair pad which is assigned to the Mineralized Rubber Co., of New York.

In druggists' sundries there is produced a new type of nursing nipple, an atomizer which is patented by V. C. Vant Woud of the Vant Woud Rubber Co., and a new type of syringe, the product of a Providence inventor.

In boots and shoes there are but two inventions to be chronicled. One an attachment for holding an India-rubber overshoe to the leather shoe, which it is to be hoped will at last solve the problem that so many inventors (not rubber men) seem to think needs solution. The other is a very ingenious arrangement in shoe ventilation which really bears promise of having great value. This latter is the invention of Matthew Hilgert, of Salt Lake City, Utah.

In notions Isabelle Wormer, of Chicago, patents a sort of double barrel dress shield, which bears evidence of being rather more complicated than such articles usually are.

Philander J. Davis of Rochester, N. Y., patents a vulcanizer for dentists' use that has manifest advantages.

Under the head of miscellaneous there is a suction connection device, a golfing appliance, and last an ingeniously designed ball which is patented by Russell T. Ellwell, superintendent of the Clifton Mfg. Co., Hyde Park, Mass.

There are in addition four trade-marks and design patents in the rubber line which speak for themselves.

TIRES.

No. 566,704.—Bicycle Tire Repairer. William H. Howard, Malden, Mass.

A tire-repairer, comprising a band to encircle the tire, and holders on the ends of the band, formed of sheet-metal plates provided at their inner edges with interlocking fastenings and registering recesses and having finger-grasp extensions at their outer edges beyond the ends of the band.

No. 566,772.—Repair-tool for Pneumatic Tires. Georg Kirkegaard, Giffords, N. Y.

A tire-repairing tool, consisting of a substantially rectangular frame having a fixed jaw at one end, a carriage located between the sides of the frame and provided with flanges embracing the sides, thereby holding the carriage in place, the carriage having a jaw corresponding to the fixed jaw and means for reciprocating the carriage.

No. 566,798.—Inflatable Wheel-tire. Anthony Pullbrook, London, England.

In an inflatable wheel-tire, the combination with the outer tube of the tire or with the outer cover thereof, of strips or bands of India-rubber or other flexible air-tight material cemented longitudinally, and transversely at intervals to the inside of each outer tube or outer cover at the tread part thereof, so as to form separate airtight subdivisions or chambers, and flexible material which is more or less non-puncturable or more or less difficult to puncture placed in the separate air-tight subdivisions or chambers.

No. 567,245.—Pneumatic-tire Shield. Joseph H. Lowrey, Neola, Iowa.

A removable shield for pneumatic tires composed of flexible armor, an oppositely-disposed pair of twin hoops affixed to the opposite or base edges of the shield, and a series of laterally-disposed clamps for securing the hoops.

No. 567,402.—Apparatus for Repairing Pneumatic Tires. Joseph G. Moomy, Erie, Pa.

In combination with an insertion funnel having a flaring inner surface at its outer end merging into a contracted mouth at the inner end, the contracted mouth extending through the inner end with a substantially uniform diameter throughout its length; a thimble placed on the contracted mouth and having a contracted mouth similar in form to that of the funnel but of smaller diameter.

No. 567,457.—Method of and Apparatus for Making Pneumatic Tires. Henry J. Doughty, Providence, R. I.

In an apparatus for vulcanizing pneumatic tires, the combination of a stationary and movable chamber each of a circular or ring shape correspondingly-formed detachable mold-sections carried by the adjacent faces of the chambers, and adapted between them to inclose an expanded tube, means for supplying the sections with an expansive heating fluid, and means for simultaneously supplying the inclosed tube with fluid from the interior of the movable section.

No. 567,512.—Pneumatic Tire for Bicycles. Joseph A. Rousseau, Fall River, Mass.

In a pneumatic tire, the outer tire or tube, an inner tire or stiffening portion, and a series of pairs of aluminum plates, the plates of each pair being hinged together, and the pairs of plates being set side by side between the inner and outer tires with their hinges extending along the line of the center of the tread, and the outer tire, inner tire and plates being molded together.

No. 567,521.—Sectional Pneumatic Tire. Alton W. Tibbitt, St. Louis, Mo., assignor of one-third to Henry C. Tucker.

In a sectional tire for bicycles circular in cross sections means of communication between each section forming the complete tire from end to end, means for securing each section in place on the rim of the wheel, the means consisting of a plate, upon the interior of each section, and extending from end to end thereof, a bolt passing through the rim of the wheel, the head of which bears against the rim, and the shank screwing into the plate in each section.

No. 567,563.—Means for Preventing Puncture of Pneumatic Tires. Edward E. Ellis, Washington, D. C., assignor of one-half to John C. Pennie, same place.

A bicycle or similar vehicle comprising the combination with the pneumatic tires thereof an independent movable protecting band for the tread of the tires of the wheels, the same consisting of an endless band passing around or partly encompassing both tires, and separate guide pulleys around which the upper and lower parts of the band pass.

No. 567,839. Pneumatic Tire. Joseph G. Moomy, Erie, Pa., assignor of one-half to the Combination Roll and Rubber Company, Bloomfield, N. J.

The combination of the outer casing thereof having a series of closed and open pockets in continuation of each other, these open pockets having a binder-recess accessible with the tire deflated and closed with the tire inflated; a series of binders running through the pockets; and a fastener in each open pocket for a binder.

No. 567,993.—Pneumatic Tire. Louis K. McClymonds, New York, N. Y., assignor to the New York Belting & Packing Company, Limited, same place.

In an inner-tube tire, the combination of the inclosing shoe and an inflatable flexible air-tube consisting of a single length of tubing having contiguous separable ends with an air-passage connecting the interior spaces of the two ends, and an air-valve for inflating the inner tube.

No. 568,564.—Pneumatic Tire. Andrew Graff, Brooklyn, N. Y.

The combination of the inner rubber tube, the thick canvas, or duck tube, rendered waterproof, a reinforcing section or strip of heavy sole-leather, the edges of which are thinned or skived down, secured to the outside of the canvas tube, and a covering or layer of rubber attached to the canvas and extending partially upon the edges of the leather.

MECHANICAL GOODS.

No. 567,233.—Antifriction Packing. Louis A. Gruber, Pittsburg, Pa.

Antifriction packing consisting of a coil formed from a body composed of a core of rubber and a covering of asbestos, the packing being V-shaped and having its edges so beveled to engage the piston-rod when wound in position.

No. 567,916.—Lawn-Sprinkler. George H. Newell, Grand Rapids, Mich.

In a lawn sprinkler, a revoluble base having arms arranged to discharge water in a fine spray to revolve the base, a ball-and-socket joint in the upper end of the base, a hollow ball having an opening through its lower surface and fitted to work freely in the joint, a hollow stem communicating with the hollow of the ball and extending up therefrom, lateral openings through the walls of the upper end of the stem, and a sprinkler-head revolubly secured to the stem by a water joint.

No. 657,962.—Hose-Mender. John J. Cooper, Providence, R. I.

A one-piece hose-mender, consisting of a short metallic tube or sleeve having its two ends provided with circular exterior flanges, and having the barrel portion of the tube provided with inclined oppositely arranged hose-retaining spurs or teeth.

No. 567,985.—Stair-Pad or the Like. Alfred J. LeClair, New York, N. Y., assignor to the Mineralized Rubber Company, of New York.

A stair pad or carpet, consisting of rubber or other flexible material having longitudinal grooves on both sides and plastic material interposed between the grooves on the under side of the pad.

No. 568,042.—Lawn-Sprinkler. Charles D. Rathbun, Grand Rapids, Mich.

In a lawn-sprinkler, a hose-nozzle having the end fitted to form a water-tight joint with a plain cylindrical tube regardless of the relative position of the tube to the nozzle, with a plain cylindrical tube having an inner diameter uniformly of the diameter of the end of the nozzle and pivoted to be thrown to different angles with the nozzle.

No. 568,069.—Packing for Oil-Well Pumps. William E. Karns, Parker's Landing, Pa.

A single-piece packing-cylinder for the working valve of oil-well pumps, comprising an inner metallic sleeve or core surrounded by alternate annular layers of vulcanized rubber and webbing, the outer edges of the latter projecting beyond those of the former, and also provided with space circumferential cavities between certain layers, whereby the contiguous free edges of the layers of webbing are exposed to outward pressure.

No. 568,342.—Hoze-Nozzle. John R. Freeman, Winchester, Mass.

A hose-nozzle provided near its base with ears, a longitudinally-slotted bar pivotally mounted between the ears on a pin held transversely thereby, and a spring-controlled locking-bolt mounted in the bar and adapted to engage a socket adjacent the ears when the bar is rearwardly extended, to prevent longitudinal movement, a straight portion of the bar at such time engaging the bottom of the recess between the ears forward of the pivot, and holding the bar rigid.

No. 568,669.—Combined Packing and Valve. William E. Ellsworth, Cleveland, Ohio, assignor of one-half to Byron J. Pratt, same place.

The combination in a combined packing and valve of the bushing which forms the packing for the tapping tube; a conical shaped portion integral therewith provided with an approximately V-shaped apex and bisected by a split extending to the bushing, the whole being formed of rubber or similar elastic material; a bung for receiving the packing and conical portion and a tapping tube adapted to pass through the slit in the conical portion and be clamped by the bushing.

DRUGGISTS' SUNDRIES.

No. 566,988.—Nipple. Samuel R. King, Providence, R. I.

A nursing-nipple provided with an outlet opening located near the base of the nipple and having a groove extending externally from the outlet-opening toward the end or apex of the nipple, whereby the fluid is drawn from near the base of the nipple, and conducted toward its apex.

No. 568,058.—Atomizer. Victor C. Vant Woud, Brooklyn, N. Y.

In an atomizer the combination of the cap having liquid and air passages, and a flange, a nasal nozzle, fitted to the flange and frictionally held by it, two short tubes snugly fitted into the upper ends of the passage and projecting upwardly into the nasal nozzle a detachable block placed upon and wholly supported by the short tubes, the block being of less cross-sectional area than the bore of the nozzle, and having passages through it, into the lower ends of whjch the upper ends of tubes are fitted, the passages being arranged with relation to each other to constitute the atomizing-orifices.

No. 568,331.—Syringe. Osseana E. Bosworth, Providence, R. I.

A syringe-nozzle comprising a main portion externally shaped as a forwardly-tapering right cone, provided at its smaller front end with a short, non-yielding truncated conical prominence adapted for embracement by the sphincter muscles this prominence rounded inward at its peripheral rear edge and meeting

the conical surface of the main portion, to which it is integrally joined, by an inward angle, its truncated forend being open into an axially-disposed cylindrical hollow extending through the body, the whole presenting a smooth non-jointed rigid exterior.

BOOTS AND SHOES.

No. 567,254.—Attachment for India-Rubber Overshoes. Albert R. Pritchard, Rochester, N. Y.

In an India-rubber overshoe attachment, consisting of a narrow strip of elastic material conforming to the inner surface of the sole and extending longitudinally from the ball backward to and over the upright heel portion down on the outer side and bent to clamp the overshoe at the heel portion, and having an outwardly turned hook end to form a means for removing the overshoe from the shoe proper and to support the lower rear edge of the trousers.

No. 568,068.—Ventilated Shoe. Matthew Hilgert, Salt Lake City, Utah.

In a boot or shoe, a laminated insole provided at the heel with a circular opening, and also having an air-circulating slot communicating with such opening, the upper portion of the insole being provided near the front end with an opening communicating with the circulating slot, the upper portion of the insole being further provided with an enlarged heel portion forming a loose flexible imperforated cover portion for the circular opening in the insole, and a spring supported within the insole under the enlarged heel portion to normally dish and elevate the heel portion of the insole to provide an air bulb operated by the heel of the wearer during the act of walking.

NOTIONS.

No. 567,285.—Dress-Shield. Isabelle Wormer, Chicago, Ill.

A dress-protector comprising two shields, shaped to fit into the armpits and about the adjacent parts of the wearer, and fastening-straps attached to the shields and passing over the arms, shoulders, back and breast of the wearer, the shoulder straps being attached to the shields substantially opposite the armpit folds in the shields and the breast-straps attached to the body portions of the shields at or near their lower front extremities, whereby the breast straps draw the body portions of the shields down against the tension of the shoulder-straps to prevent wrinkling or crumpling and to preserve them in a smooth condition while in use.

DENTAL RUBBER.

No. 568,129.—Vulcanizing Apparatus. Philander J. Davis, Rochester, N. Y.

The combination of a retort, a frame around the same having a pair of lugs on its opposite sides, a cover, a clamping-lever pivoted to one of the lugs and extending over the cover and having the cover pivoted thereto, a cam or eccentric adapted to engage the under side of the other lug and provided with an operating handle, and a swinging connection permanently attached to the cam and to the free end of the clamping-lever, whereby the cover is locked and unlocked and is lifted and replaced by operating the handle only.

MISCELLANEOUS.

No. 568,816.—Suction connection Device. Joseph S. Taylor and Charles Davies, Liverpool, England.

A suction-connection device consisting of a slightly cup-shaped disk of rubber and a hook, eye or its equivalent, the shank of which is passed through a hole in the center of the cup-shaped disk, in combination with a metal washer in front and two washers at back, over which the shank is riveted, whereby an air-tight fastening is made between the concave rubber disk and the hook or eye.

No. 567,415.—Golfing Appliance. David Dalziel, Glasgow, Scotland.

A golfing appliance consisting of a frame adapted to be sunk in the ground, and provided on top with an India-rubber surface in combination with a T-rest to hold the ball above the surface.

No. 567,459.—Rubber Ball. Russell T. Elwell, Hyde Park, Mass., assignor of one-half to Amanda M. Lougee, Boston, Mass.

A ball composed of a hollow shell of sponge rubber, having its inner and outer surfaces continuous and impervious to air, the sponge rubber forming a backing to resist puncture.

TRADE-MARKS.

No. 28,849.—Rubber Shoes. McCord Rubber Company, St. Joseph, Mo., and Chicago, Ill. Filed July 11, 1896.

Essential feature, the words "Golden Rule Northen." Used since August 1, 1895.

No. 28,896.—Rubber or Cushion Tires for Vehicles. John F. Seiberling, Akron, Ohio. Filed July 20, 1896.

Essential feature, a representation of a portion of an arrow. Used since April 10, 1896.

DESIGN PATENTS.

No. 26,064.—Bottle-stopper Bulb. Charles T. Schondelmeier, Brooklyn, N. Y. Filed Mar. 10, 1896. Serial No. 582,655. Term of patent 14 years.

No. 26,115.—Rubber-tire Material. John F. Seiberling, Akron, Ohio. Filed July 20, 1896. Serial No. 599 978. Term of patent 14 years.

A RUBBER-FACTORY'S FIRE SYSTEM.

THE Boston Rubber Shoe Co. have in their immense factory at Edgeworth, Mass., probably one of the best-equipped systems for extinguishing fires to be found in any industrial plant in the land. First is to be considered the thoroughly-organized fire-department, with a force of twenty men, selected on account of their adaptability to the work and also on account of the nearness of their homes to the factory. William is at present captain of the company, with Samuel Kingston, lieutenant. Both these men have shown signal ability in fighting fire in more than one emergency. At the sounding of an alarm the firemen report at once at the hose-house in the factory-yard and are assigned to their posts of duty. They are also supposed to respond to alarms of fire from the boxes near the rubber-factory.

Throughout the factory there have been scattered 28 fire-alarm boxes. An alarm from any of these sounds in the main office and an indicator designates what box has been rung in. At the same time box 61, the private box of the company, is rung and the fire-department of Malden called out.

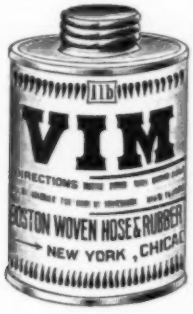
Each room of the factory has its safeguards against fire. Along the ceiling are placed pipes on which, at every four feet, is a sprinkler-head, lightly soldered in, so that when the room becomes heated the sprinklers pour forth a stream of water capable of quelling quite a large blaze. Fire-buckets are arranged all about the rooms. In the corners of each room are large water barrels. Small lines of hose and fire-proof blankets are also accessories. Each overseer and foreman has designated certain men to have charge of these. Others are detailed to close the fireproof shutters and to close the doors. Some have the duty of giving orders to the employés for leaving the factory in an orderly manner to avoid a panic.

The latest addition to the fire system is an immense brick reservoir. It has a capacity of 223,000 gallons, and will be filled from the company's reservoir on the heights at the west end. This is connected with three steam-pumps which have a capacity of 1000 gallons a minute. Situated about the yard are several hydrants to which hose can be attached at a moment's notice. There are two model hose-carriage houses with hose-reels wound with the highest-grade hose. Every month sees something new in the system, and it is now brought as near perfection as possible under the direction of Fire Commissioner Harry E. Converse. Many of the recent alterations have reduced the insurance risks, so that in the end it is a paying investment. The facts herewith, by-the-way, have been compiled from the Malden *Evening News*.

NEW GOODS AND SPECIALTIES.

BOTH wholesale and retail dealers in hot water bottles have long felt that the white rubber bottle was objectionable because of its tendency to become soiled. Various colors in rubbers have been produced to obviate this difficulty, the last being the Tyrian Maroon. This color is a handsome reddish brown, and goods when made up in it are certainly very tasteful. Manufactured by the Tyer Rubber Co., Andover, Mass.

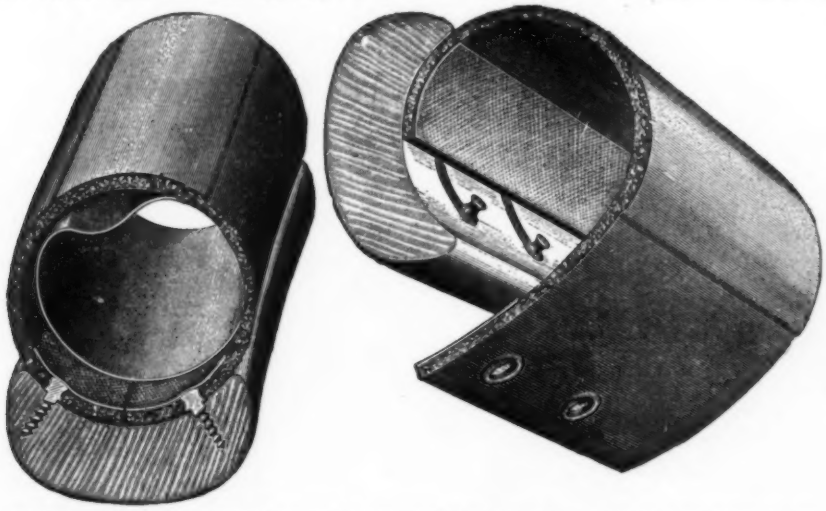
THE VIM WOOD RIM CEMENT.



AFTER the expenditure of much time and thought an ideal wood rim cement has been produced. It meets all the demands for quickness, and readiness of application, besides possessing remarkable sticking qualities. It has been used extensively for cementing tires to wood and steel rims, and also with marked success for patching canoes and boats, fastening rubber and leather to metals or to each other, etc. Manufactured by the Boston Woven Hose and Rubber Co., Boston, Mass.

THE BLUE GRASS TIRE.

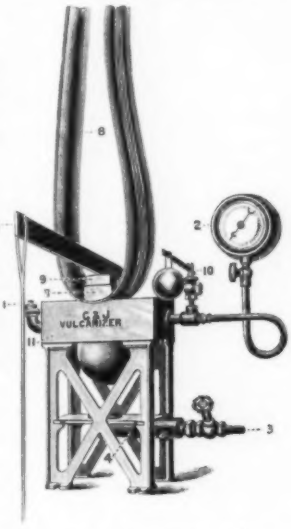
A QUICK repair tire without the usual cement, strings, wires, clamps, etc., which ordinarily attend it, which is light, resilient, and remarkably durable is shown in the illustration below. When deflated the tire can be removed or replaced with the greatest ease and yet when inflated one is powerless to stir it. It not only never pinches the inner tube but is also exceptional in that it cannot creep, will not blow off, clamps the rim and positively prevents it from slipping. The name of this tire is



the Blue Grass and to those who may be interested to inquire further into its construction the above cuts are presented, which show the tire to consist of an inner endless and air-tight tube, with a covering which is opened all the way around. This covering is furnished with eyelets which button on to the row of pins placed in the rim. To repair, let most of the air escape and push the covering to one side of the rim exposing the inner tube where the puncture is located. In case the inner tube must be removed push the covering to one side all the way round. To replace the tube simply lay it within the covering and pulling the covering over the rim, snap the eyelets over the pins. Manufactured by the Fred J. Meyers Mfg. Co., Hamilton, Ohio.

THE G. & J. STEAM VULCANIZER.

THE illustration shows a steam vulcanizer for repairing bicycle tires, which is the result of careful experiment on the part of the manufacturers of the G. & J. tires. A number of these machines have already been put in operation among the company's larger houses and agencies with exceedingly good results. They are intended primarily to repair fractures or punctures in the double tube tire known as the G. & J. As a matter of fact, however, they can easily be used on either double or single tube tires. The vulcanizer itself is very compact, is light in weight, and the heat being that of steam it can be regularly applied and regulated. The Vulcanizer sells for $12.50. To those who use it, a little pamphlet is issued giving a detailed description of the vulcanizer, and full particulars as to the manner of its use. Manufactured by the Gormully & Jeffery Mfg. Co., Chicago, Ill.



THE COLLAPSIBLE MINNOW PAIL.

A VERY attractive novelty to those who enjoy fishing is a minnow pail made of white rubber sheeting, with a canvas covered on the outside. The rigid parts of the pail are collapsible, so that when not in use it can be closed into a very compact and portable package. When in use it is water-tight and as light as any minnow pail need be. For sale by Dame, Stoddard & Kendall, 374 Washington street, Boston.

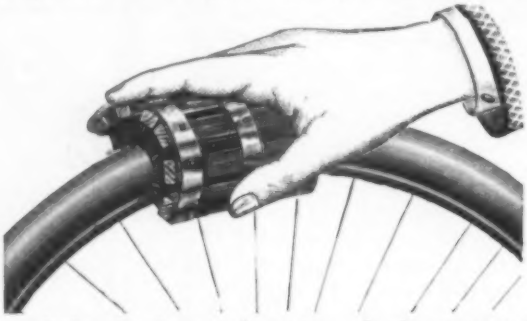
A RUBBER HEALTH AND MASSAGE ROLLER.

THESE rollers are made of elegant Central American woods such as tulip, ebony, mahogany, highly polished in natural colors, while the wheels are made of ebony, covered with a soft buffer of India-rubber. The idea is to strengthen the muscles and tissues by rapid rolling either after the morning bath, or at any time when the system seems to need it. There is practically no friction with the roller, the force being spent where it should be, on the deeper struc-

tures and organs, such as the stomach, liver, intestines, muscles and nerves. It is said that the quickly intermitting pressure of the rubber roller drives the blood rapidly and vigorously within the tissues, thus quickening the cell changes on which the health of life depends. It is used as a cure for sleeplessness, for muscle building, for cold feet, and a variety of functional disorders. The rollers are made in four sizes, and are manufactured by the Health Culture Co., 30 East 14th street, New York.

THE FARRAND TIRE BRUSH.

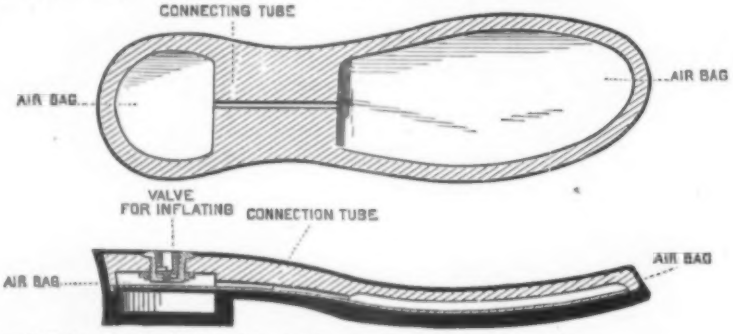
IT has always been a bit difficult to clean a pneumatic tire on which road-mud had caked. That is why the novelty shown in the illustration acquired such sudden popularity. This cycle brush cleans the tire quickly and keeps it smooth,



thus reducing the chances of puncture. It also removes dirt from the frame without injuring the enamel, and is the ideal appliance for cleaning the chain. It is easily carried in the tool bag. Manufactured by Oliver M. Farrand, 3 Maiden lane, New York.

PNEUMATIC SOLED SHOES.

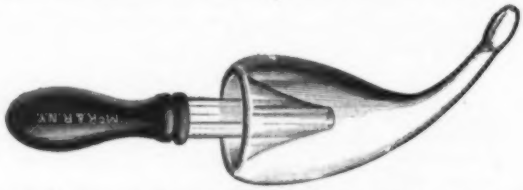
THIS shoe, while having the same appearance when finished as ordinary footwear, has between the inner and outer soles, a rubber bag which is inflated through a valve beneath the



sock lining in the heel. The back pressure of the air on the valve prevents any leakage, and the valve itself is so constructed as to prevent the possibility of loss of air. The motion of the foot in walking causes a circulation of air, which prevents perspiration. Another advantage is that the wearer has a cushion of air beneath the foot at all times, and that walking is less fatiguing than with only hard leather beneath the foot. This shoe is especially adapted for use by motormen, letter carriers, policemen, and others who are constantly on their feet. Manufactured by D. E. Wilbur & Son, Brockton, Mass.

AN ASEPTIC INJECTOR.

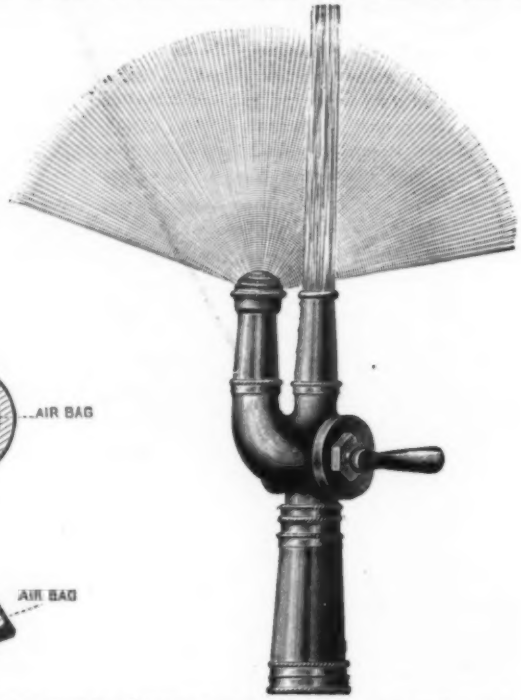
THE injector or medicine-dropper illustrated herewith was designed primarily for the application of liquid greasy compounds to the nasal passages, and its construction is such that the medicine is prevented from entering the rubber bulb, thereby preserving the asepticity of the instrument. It is pointed out by the makers that the use of the injector is not confined to semi-fluid



preparations or to the nasal passages. Any solution may be employed in it, and it may be used for eye and ear applications in place of the ordinary medicine-dropper. This injector was devised by Dr. Walter F. Chappell, surgeon to the Manhattan Eye, Ear and Throat Hospital, New York, and is being placed upon the market by McKesson & Robbins, No. 91 Fulton street, New York.

THE COMMON SENSE NOZZLE.

THE illustration shows without any detailed description an ingenious nozzle that has lately been put upon the market. As will be seen by the simple turning of a ratchet two solid



streams may be thrown or one solid and one spraying stream. This nozzle is manufactured by C. N. Richardson, Providence, R. I.

THE AMERICAN BULL DOG RUBBER.

WHATEVER a woman wants, this much is certain, a man always wants comfort. He wants it from head to foot. Hence the new Bull Dog shoe. It is the most sensible shoe yet—the

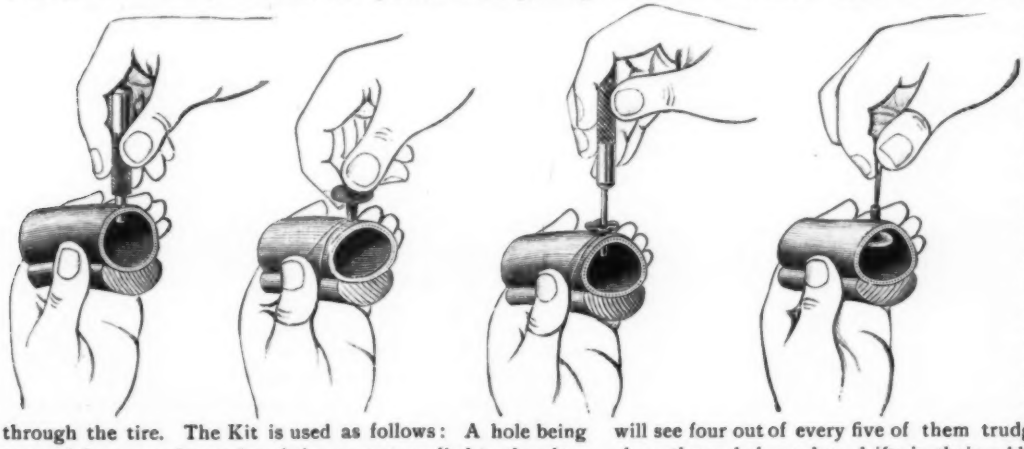
very essence of comfort, because it is made to conform to the foot as distinguished from a good many of the razor-toe shoes, in which the foot is obliged to conform to the shoe. It was a foregone conclusion, when the Bull Dog shoe came on the market, that the American Rubber Co. would have a rubber to fit it, for the American Rubber Co. is never found napping. The new Bull Dog rubber made by them is a handsome and shapely shoe; and it is so distinctly the embodiment of common sense, that it is bound to commend itself to every wearer of rubbers. Here are three cuts showing the shoe from every stand-point, top, side, and sole.

THE BEDFORD WATERPROOF DUCK REEFERS.

A REEFER that is having an exceedingly large sale and that is really one of the most practical working coats on the market, is that shown in the illustration. It is of heavy double texture duck, is made up in a first class manner, is double breasted and finished with a corduroy ulster collar. Manufactured by the Norfolk Rubber Co., No. 91 Bedford street, Boston, Mass.

THE "COMMON SENSE" REPAIR KIT.

A QUICK, simple and effective repair kit, known as the "Common Sense," is provided with a cutter which makes a clean hole, thus doing away with any necessity for burning a hole, or the danger of tearing the fabric by expanding tools. The plug has a tapered stem which enters easily into the tire. The back of the plug also has a slight indentation to which is attached a linen loop to guide the pointer while pushing through the tire. The Kit is used as follows: A hole being cut and the parts cleansed and the cement applied to the plug, the latter is inserted in the tire up to the flange, the linen loop being retained on the outside by passing it over the thumb. The plug is then forced inside the tire with the pointer, after which it is drawn up against the tire by means of the linen loop. Manufactured by the Brooklyn Lock Co., 56 Ainslie street, Brooklyn, N. Y.



THE SPOT CASH VULCANIZER.

ANOTHER vulcanizer for small repairs, particularly of pneumatic tires that is specially designed for the part of the trade not thoroughly versed in vulcanizing, is the Spot Cash. The idea in this is to make it wholly automatic, in other words the machine is simply started by the novice and does its own work. It needs no watching, will not over-cure the rubber, nor vulcanize the tire out of shape. The tire is prepared for patching, is clamped to the machine, is started, and the heat ceases when the cure is finished. The heat in this is generated through the use of alcohol. A sufficient amount of material accompanies each machine for twenty-five repairs. As may easily be seen the machine takes up little room, is exceedingly light, and there is nothing to get out of order. The list price of the machine is $10, but on orders received before November 15th, a net spot cash price of $5 is made. Manufacutred by Arlington U. Betts & Co., Toledo, Ohio.

THE SNOW DEFIER.

MEN have undoubtedly had a great advantage over women in the matter of getting through snow drifts with comfort, for a man has only to put on his rubber boots, or to tuck his trousers into the top of his high buckle gaiters and there he is. To be sure, there are rubber boots made for women,—very comfortable and handsome boots, too,—fleece lined and finished in a handsome pebble without. In fact, the Candee Co. makes a woman's rubber boot with a leg in imitation of watered silk, which is a very attractive specimen of footwear.

The women of Boston—and Boston women are concededly the most advanced on all subjects—are great wearers of rubber boots. On any snowy mid-winter day you will see four out of every five of them trudging complacently along through knee deep drifts in their rubber boots.

But there are a great many other women who have not yet

swung their minds into the idea of boot wearing. Now the American Rubber Co. has come to the rescue of all such women. It has made a combination shoe and legging, which comes way up above the knee, and in which a woman can wade snow drifts with impunity. The rubber is the American "Sensible Over,"—the high front rubber so much in vogue

these days. The legging is of knit wool, thick and warm and tightly woven. It is a great snow defier. It ought to enjoy an enormous sale out in the country, where snow drifts make up a considerable part of the winter experience, and for young girls going to school, who like to tumble around in the snow as much as their brothers, there is nothing else that can equal it.

TWO THOUSAND KINDS OF RUBBER SHOES.

PROBABLY if you were to ask the average citizen how many different sorts of rubbers there are, he would say, ten or a dozen. Now, the dealer of course knows better than this, but it is doubtful if many dealers have any appreciation of the enormous variety of rubber foot-wear that is made in any of the large factories. An inquiry was recently made of one of the factory officials of the Candee Rubber Co., in regard to this matter, with the following result: There are over two hundred and fifty entirely distinct varieties of rubbers made at the Candee factory. This number refers simply to the different patterns, and not to the varieties of sizes or widths. These range from the high hip boots down to the feather-weight foot holds that keep the sole of the foot dry, but are almost invisible to view.

Now many of the rubber shoes are made in a large variety of sizes and widths. Some of the women's, for instance, are made in eleven different sizes; some of the men's, in fifteen different sizes. Then the same length of shoe will be made in five different widths and further in five different toes. For instance: in women's shoes, in the Medium, Opera, Piccadilly, Needle and 20th Century toe. There are also five different styles of heel, in the women's shoes: Common, Sensible, Opera, Half French Heel and French Heel. So that, taking into consideration all the different patterns, different sizes, different widths, different styles of toe and styles of heel, there are made at the Candee Factory, considerably over two thousand distinctly different rubbers.

Then, if we take up further differences, such as different color and texture of lining, the number increases to almost an indefinite number of thousands, but omitting these minor varieties, and considering only patterns, shapes and sizes, the Candee company makes over two thousand different kinds of rubbers.

TO MANUFACTURE PNEUMATIC TIRES.

THE Brooklyn Rubber Co. (Brooklyn, N. Y.) have for nearly twenty years been manufacturing a variety of rubber goods. About a year ago they decided to go into the manufacture of single-tube pneumatic tires. They therefore began experimenting and the result was the "Bernard" tire, which is said to be in every way a first class article. The tire is made in two styles with the plain and with corrugated tread. The manufacturers claim that their tires are all that can be desired as to wear and resiliency, and that both material and labor put in them are of the very best quality. Their factory is located on Sumner avenue, Brooklyn, where they have a large brick building, with some 15,000 square feet of floor space.

FIRE IN A FRENCH RUBBER FACTORY.

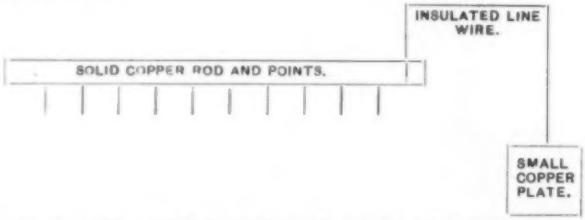
FROM OUR PARIS CORRESPONDENT.

A DISASTROUS fire took place on October 15, shortly after the midday meal, at the factory of Messrs. François & Grellon, at Grenelle, situated at a few minutes' walking distance from the exhibition grounds within Paris. A belt-maker's assistant in spreading the usual naphtha and Gutta-percha compound on canvas at a spreading-machine, by some means fired the naphtha vapor, which is largely given-off during the spreading process. The flames at once ignited the man's stock of naphtha and Gutta-percha mixture contained in a large cistern, the workman being seriously burnt about the face and hands. The injured workman raised an alarm, but the fire rapidly gained the mastery as this part of the factory was largely built of wood.

The engineer did what was necessary for the safety of the steam-generating boilers; the care-taker shut off the gas at the meter; the police acted with great promptitude in removing from the out-building many drums of dangerous liquids, such as naphtha and bisulphide of carbon. Colonel Navigault was quickly on the scene with four steam fire-engines and eight lines of hose. But workshops covering an area of 1300 square feet were destroyed, containing considerable quantities of rubber compounds and manufactured articles. The machinery is mostly destroyed and the total loss is approximately estimated at $60,000.

The firm gives employment to 150 workpeople, of whom many are now thrown idle, besides losing their own tools and clothes in the fire. This firm manufactures mechanical goods, which are classified here as "Confection," hose, tubing, tires, and surgical articles. In Gutta-percha, belting, and electrical-wire covering, besides a numerous list of Gutta-percha utensils.

Commenting on fires, which are of frequent occurrence in waterproofing departments where naphtha is the solvent of India-rubber, these fires are caused by the dry state of the air, together with the friction caused by the cloth in passing through the spreading machine and over the steam-heated table, generating electricity. A simple preventive apparatus as here shown—



—is placed, in a parallel position, a few inches behind the spreading-knife, a fine line wire insulated with Gutta percha being attached and carried from the machine to a bucket of water placed in any convenient position. The electrical sparks are by these means conveyed safely away, otherwise they would fire any naphtha vapor which might be present, over the steam-heated spreading-machine table.

THE "BULL-DOG" SHAPE IN RUBBER SHOES.

THE present season gives promise of fewer novelties than usual in India-rubber footwear, which may be due in part to the business paralysis which has been so general. Almost the only new feature up to date has been the "bull-dog" toe, designed to fit leather toes to which this designation has been applied. This is of particular interest as marking the decadence of pointed toes. Prudent dealers for a year past have been careful to limit their orders for shoes of extreme narrow widths, whether in leather or rubber, and now it seems to be pretty well agreed that the days of the pointed toe are numbered. In the far west it is still in demand, and that it has not gone out of vogue entirely in the east is evident from the fact that a department store recently opened in New York on a larger scale than was ever before seen in America, began with a full stock of pointed-toed shoes. But this store does not cater to a modish trade. A better evidence of the trend of fashions than the stocks in the stores of any city is the program of all the rubber-shoe factories this season—not to turn out any "needle" toes except on orders.

The approaches of the pointed toe in shoes were insidious and stealthy, not like the blunt, honest creak of the square toe, and its victory was much more complete than at a period about a dozen years ago, when an extreme development of the toothpick toe was conjoined with an excessively liberal doctrine as to the admissible size of shoes. But the turn of the pendulum came then, as it has now, marking the point beyond which the force of fashion could not go. There has been an abrupt desertion of the distinctively fashionable and a return for a breathing space to the sane. For square-toed shoes can hardly be called fashionable, even when pointed toes are unfashionable. The decree of fashion granting full rights to the broad toe is, then, not to be taken as making that fashionable, so much as showing a temporary truce in the warfare between the sensible and the stylish.

But the broad toe must be expected to come in by degrees, and the "bull-dog" is a compromise between extremes in either direction. Its shape can scarcely be described with accuracy, so far as the output of leather goods is concerned, since the rubber "bull-dogs" in the market, while closely fitting some of the leather toes, will not fit others at all. In general, however, it may be said that the "bull-dog" in rubbers is wider in the toe than the "piccadilly," more nearly approaching the "opera" so far as the toe is concerned, with a peculiarity in the shape of an extra swing or widening of the shoe on the outside of the foot. Illustrations of these shoes are given on page 41.

Inquiry in houses of standing in the leather-shoe trade has elicted the opinion that the "bull-dog" style is destined to have a good run, with a larger demand next season than in this, while of course the rubber-shoe factories must follow the lead, in pursuance of their policy of supplying rubbers to fit every make in leather goods. "Bull-dog" rubbers are being turned out at the American, Candee, Wales-Goodyear, and India-Rubber Glove factories. A selling-agent of another large concern assured THE INDIA RUBBER WORLD that he had received but two calls for "bull-dogs," both of which were traced back to one small retailer, and that his company would not make these shoes this year. But another representative of the company, in closer touch with their factory, was found canvassing the leather-shoe trade with samples, and endeavoring to determine the degree of the popularity of the "bull-dog" style in leather goods. The rubber-shoe trade as a whole is becoming as much interested in the new style as it was, not so long ago, in the extreme pointed toes,

THE MARVEL RUBBER CO. CLOSING OUT.

WHAT is probably the final chapter in the history of the Marvel Rubber Co. was the purchase of their entire stock of shoes by the Parker, Sampson & Adams Co., extensive shoe jobbers of Boston, who are offering them to the trade at reduced prices. The last annual meeting of the Marvel company was held on July 13, at which time the Messrs. Banigan withdrew from all connection with it, and the directors of the Woonsocket Rubber Co. were elected to similar positions in relation to it. Emmet A. Saunders was elected president. The works were shut down on July 18.

The Marvel company was incorporated by the Rhode Island legislature in 1892 and formally organized on February 25, 1893, by the election of Joseph Banigan, president; John J. Conley, secretary-treasurer; and William B. Banigan, general-manager. The remaining directors were Patrick Wren and Hiram J. Doughty, inventors of the patent shoe to be manufactured by the company, and of the requisite machinery. Under the charter the offices were located at Providence, R. I., but the factory was located in the original factory of the Woonsocket Rubber Co., on South Main street, Woonsocket. The capital was $500,000. In April, 1893, when Mr. Banigan's other interests were absorbed by the United States Rubber Co., the Marvel Rubber Co. was included.

The "Marvel" shoes were made by a patented molding process, of a high-grade compound, and was listed at a higher price than the cloth-lined rubbers. A shoe merchant interviewed by THE INDIA RUBBER WORLD says that the "Marvel" was a shoe of real merit provided care was taken to have it fit the leather shoe exactly, but since this does not always happen in the trade, many complaints were made of these molded shoes.

ARE FIGURED GOSSAMERS TO BE REVIVED?

THE London *Telegraph* thus describes a new gossamer that is appearing in the English market: A fabric of beautiful appearance is to be put upon the market—an improvement upon the waterproof-coated materials rendered thus impervious by treatment with the well-known India-rubber and other solutions. The improvement in this case consists in giving to the coated surface of such goods a dressing formed by a film of powder made by reducing glass to an impalpable dust and finely sieved so as to remove all crystalized appearance, this coating giving to the surface treated a fine, soft, silky, and luminous effect. Thus coated, the material may be ornamented either before or after vulcanization, by printing or other method in a suitable medium and in the colorings preferred, the desired pattern or design. For this purpose, colors having an India-rubber or other suitable waterproof medium are selected; and, in order to counteract the adhesive property, the material is treated after ornamentation to a second coating of pulverized glass; this also produces a luminous appearance, while not being soluble in water, it possesses the advantage of being more substantial and lasting in its effects than the ordinary powders employed.

From the description of this new fabric one would almost imagine that the day of the electrical gossamer was about to return. Indeed it is not altogether an impossibility. Of course the mackintosh is the popular garment now and nothing else in the line of waterproof goods looks quite right. At the same time, it is but a brief five years since plain black gossamers, stripes, and electrics, and some exceedingly florid patterns of surfaced rubber goods were worn by the élite. It is therefore not impossible that the solarizing tables may again come into use,

RANDOM NOTES FROM PARA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The discovery is reported of extensive forests rich in India-rubber near Itacayunas, on the river Tocantins, which may be regarded as another addition to the already known great wealth of the state of Pará.

A recent telegram from Maranhao mentions the arrival of 500 kilograms of rubber from the valley of Pindaré and the banks of the Rio Carú. It is expected that 2000 kilograms more will be obtained from that source. A shipment had been to England, where a sample has been favorably classified.

Much complaint continues to be heard in regard to commercial relations between Brazil and Bolivia, and a new treaty between the countries would be welcomed by many people. There are stacks of goods for Bolivia in the Pará custom-house, which the inspector will despatch only as orders are received from the supreme authority. Dom Pedro Suarez, the Bolivian consul, has telegraphed to Rio that unless measures are taken there to stop this difficulty he will resign his post.

A subsidy of 1000 milreis for each 2000 India-rubber trees properly planted within the state has been decreed by the congress of Pará. The plantation must have been made upon land owned, rented, or leased by the planter, at least two years before the subsidy becomes due, and the payment is to be based upon a certificate of the mayor of the municipality as to the number of trees.

In response to many inquiries which have reached me through THE INDIA RUBBER WORLD, respecting the rubber-seed oil which has been mentioned in my notes from time to time, I may say that in Pará its manufacture is not yet considered likely to prove profitable. Specimens of this oil were exhibited at the World's Columbian exposition, in 1893, and it has undoubted merit for certain purposes. I shall arrange soon to forward samples of it to THE INDIA RUBBER WORLD office.

The Amazon Steam Navigation Co. having petitioned the government to be relieved of the obligation, under the new law, of moving its seat to Brazil, as it can not do so under its present articles of association, and as nearly all its shareholders are British residents, unwilling to accept such a change, the committee on public works and enterprises of the senate has recommended the exemption asked for.

Mr. F. Pusinelli, head of the great rubber firm of Pusinelli, Prüsse & Co., in this city, who has been for several years past the German consul at this port, has also been appointed the Austrian vice-consul here.

What fiends in human shape are some of these Indian tribes. The *Provincia do Pará* reports that on the igarape Tobocal near Trituia, in this state, some Indians of the tribe Gamellas entered the hut of a poor rubber-gatherer who, with his wife, was absent, killing in a horrible manner their four children, one not yet three years old. It has struck terror into the hearts of the settlement.

I have just been re-reading with much interest the "Studies of Pará State History" (*Estudos de Historia Paraense*), by Senhor Joao Lucio de Azevedo, of the rubber firm of A. Berneaud & Co. This gentleman is one of the profoundest and best Amazonian historians, who finds relaxation from business cares in his devotion to literature.

GRAO PARA.

Pará, Brazil, October 1, 1896.

MR. CHESTER J. PIKE.

IT is probable no man is better or more favorably known among the rubber shoe jobbers of the United States than Mr. Pike, and incidentally it might be remarked that he is notable for handling the largest accounts in rubber shoes that the trade affords.

Mr. Pike was born in Chelsea, Vermont, and when he was seventeen years old entered the shoe store of E. S. Fay, of Springfield. Two years later he had charge of a store at Holyoke, also owned by Fay. Early in '79, he accepted a position with Field, Thayer & Co., and at twenty years of age had full charge of their rubber department. At twenty-two he was in the employ of Balderston & Daggett, who were then agents for the National India Rubber Co. In 1887 he became selling agent for the Wales-Goodyear Rubber Co., and while he was fully appreciated in former positions, it was in this that he proved himself an unusually brilliant marketer of rubber footwear. When the Wales-Goodyear Rubber Co. became a part of the United States Rubber Co., Mr. Pike was made selling agent of the latter company, with his headquarters at Boston. Following the recent resignation of Mr. Walter S. Ballou as sales agent of the Woonsocket Rubber Co., Mr. Pike added that line to the goods that he was already marketing, dividing the business with Mr. E. H. Paine, who handles them for New York and Pennsylvania.

CHESTER J. PIKE.

The subject of this sketch is so well known that it is hardly worth while to describe his personality or his characteristics. One incident told by a friend of his may serve, however, to illustrate his directness and fearlessness in dealing with people. It was when he was a youngster of but eighteen years, occupying a subordinate position in a shoe store, when he saw as he supposed a competitor of across the street carefully scrutinizing his firm's shipments. Young Pike on the impulse of the moment stepped out and said bluntly, "Seems to me if I were in your shoes I'd be across the street running my own business instead of trying to borrow bright ideas from my neighbors." The gentleman addressed, with a look of surprise, explained that the youngster was laboring under a mistake, that instead of being a rival he was a buyer from a western city, and was now East looking for rubber shoes. With true business instincts young Pike instantly began to tell him about the line they had, got him into the store, and right under the nose of one of the ablest traveling salesmen that the house employed, sold him the largest bill of rubber shoes that was booked that year.

Socially Mr. Pike, as might be expected, is very popular. He is a member of numerous well known clubs, among which may be mentioned the Massachusetts Yacht Club, the Algonquin (Boston), the Hardware and the Lotos Clubs, New York.

LETTERS TO THE EDITOR.

ACID IN RECLAIMED RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I note an article in a late issue on the subject of reclaiming bicycle-tires. As I have been much interested in your enterprise in working up information for us manufacturers, I take occasion to give you some points as the result of my own observations.

I have bought reclaimed tires and have seen numerous samples, and have observed the product has an acid odor. I have had offered me a lot of 15,000 pounds which had a strong acid odor. A lot which I bought, which had every appearance of being good stock, after three months standing was so brittle, through the continued action of the slight amount of acid left in it that, had it been put into goods, it would have destroyed them and probably have injured us very materially. From these facts I have been led to the conclusion that the acid process for eating the cloth out of tires is a dangerous one. The use of the acid process on old shoes, or any rubber that is highly compounded with carbonate of lime or whiting, is a different thing, since the presence of these minerals suffices to neutralize the acid, and prevent its violent and direct effect upon rubber present, but with bicycle tires the process is very uncertain.

It is true that some of the product that I have seen is well devulcanized and freed from cloth fiber, but no manufacturer can tell in a lot of a hundred pounds, or over, whether there may not be incorporated in it a few pounds that were strongly acid. In this case the injury to the goods would not show up for three to six months.

Where the manufacturer of the reclaimed bicycle stock operates upon several tons at the time, he is in danger of spoiling the whole lot, and in my judgment is almost certain to injure a portion of it, by the present use of acid.

Considering the great damage which would result to us manufacturers who buy this material, you can be serving your clients by making an investigation of this subject. S. A. E.

New York, September 17 1896.

[OUR correspondent's points are well taken, and lead to the suggestion that he purchase only of those who have perfectly solved the problem of making a reclaimed rubber of tires. There are such manufacturers who are doing a good business in this line.—THE EDITOR.]

FRENCH WOOL GREASE AGAIN.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The writer has been informed that certain manufacturers of pneumatic tires are using something called "wool oil." Can you give me information with regard to this? M. A. H.

Springfield, Mass., September, 1896.

["WOOL oil" is probably what is known as French Wool Grease or Cholesterin, which was fully exploited about a year ago in THE INDIA RUBBER WORLD. We would refer our correspondent to his office file.—THE EDITOR.]

ABOUT THE BARNES PNEUMATIC SADDLE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I now own the patent of what was formerly the Bartlett Pneumatic Saddle, and am in a position to make an arrangement with any company either to sell outright or to go into a company for its manufacture. Should you know of parties who would be interested, I should be glad to open correspondence with them.

E. M. BARNES.

Lorain, Ohio, October, 1896.

WHO MANUFACTURES SPONGE RUBBER?

TO THE EDITOR OF THE INDIA RUBBER WORLD: Will you kindly give me the addresses of a few manufacturers of or dealers in sponge rubber? A. L. POTTER.

Kansas City, Mo., September, 1896.

RUBBER HORSESHOES WANTED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Some time ago I learned of a rubber horseshoe which the inventor claimed would wear well, and was just the thing for horses whose hoofs were brittle. Will you kindly give me whatever information you may possess regarding the best rubber horseshoe on the market. R. J. WHANN.

New Orleans, La., October, 1896.

WANTS THE BEST TIRE VULCANIZER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We were advised by the Cycling Trade Publishing Co. to write you on the tire question. We now have fifteen pairs of single-tube tires, many of them having cuts from four to six inches long through canvas and all. We wish to purchase a book or anything that will give us information how we will be able to make our tires new again by molding, vulcanizing, or any other suitable way which may be done on a cheap and small scale. Our tires are giving out on our renting stock very fast and we must have something in the way of a repairer.

THE FRENCH CYCLE CO.

Palatka, Fla., October, 1896.

SOLD THE SUNLIGHT TIRE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: This is our first season in handling pneumatic tires. The tire that we selected for this market was the Sunlight, made by the Kokomo Rubber Co., we being the exclusive agents here and in the surrounding territory. Our success has been good, and we believe the tire to be the best made. We hope to handle it next year with far greater success. LOUISVILLE RUBBER CO.

Louisville, Ky, October, 1896.

ABOUT CHLORIDE OF SULPHUR.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Will you please give us the kinds of work in the rubber trade in which chloride of sulphur is used. W. J. M.

Erie, Pa., October, 1896.

[CHLORIDE of sulphur is used chiefly where thin sheets of pure rubber are to be treated by what is known as the vapor cure. Some years ago large quantities of it were in use in the rubber clothing business, but to-day almost every manufacturer finds that steam vulcanization is more profitable.—THE EDITOR.]

BELIEVES IN RAISING PRICES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I notice in your last issue a suggestion to the mackintosh trade to try and come together so that prices may be maintained. For the past year or two they have been cut beyond not only the profit point but also the point of cost. There is neither sense nor honor in manufacturing any article and giving it to the trade at cost or under. We heartily recommend you to take up this matter with the manufacturers and see if some plan cannot be arrived at whereby we shall not assassinate one another's prices. We think you can start this movement and make a success of it.

GARLAND MACKINTOSH CO.

Howell, Mich., October, 1896.

IS OUR TRADE WITH AFRICA DOOMED?

THE growing importance of the India-rubber production of Africa might naturally be regarded as a possible basis for an extension of direct commerce between that continent and the United States, especially since we are such large consumers of African rubber, and are constantly becoming more so. Without doubt we shall always be able to obtain as much African rubber as is wanted in American factories, no matter whether it comes direct from Accra or Boma, or via Liverpool, or Antwerp, or Hamburg. But there might be advantages to our country as a whole from a direct trade in a commodity so important—the profits to our merchants (and our ship-owners, if we had them) on handling the raw material, and on the goods shipped from here in payment for it, to say nothing of the extension of the market for American manufactures. There was a time, before African rubbers were known to the trade, when American shippers and merchants did a considerable direct trade with "the dark continent," and it may appear to some people that there is nothing now to prevent enterprising Americans from spreading out in the same field, practically without limit.

But there has been a change in conditions, and the trade with Africa is no longer carried on by means of barter with native tribesmen who made no distinction on account of the nationality of traders. The field is no longer open on equal terms to Americans and Europeans, for the reason that most of Africa already belongs to Europe, and the remainder is likely to before long. Whoever does not know that, in spite of all treaties and laws, political control of a country by a European power leads to commercial discrimination there against America, simply is blind to the plainest facts in history.

These thoughts have been suggested by a recent report from the United States consul at Goree Dakar, West Africa, Mr. Peter Strickland, who is strongly of the opinion that American trade will gradually be frozen out of the continent of Africa. The European nations, he says, having possessed themselves of all the coasts of Africa, now claim to regulate the trade of the whole continent, not only at the points where they have civil governments established, but with the natives of the far interior, who as yet scarcely recognize their pretensions. For instance, the French have lately taken possession of the principal place in the district of Fouta-Djallon, in which Consul Strickland is located, and which is a fertile section larger in area than Pennsylvania. He thinks that now the products of this country, which formerly found their principal outlet through the Sierra Leone, will be diverted to the French ports on the coast immediately north of Sierra Leone. Hitherto, he says, India-rubber and some other products of this district were shipped directly to America in exchange for American manufactures, while now they are exported directly to France in French vessels, while there is a discriminating duty of 7 per cent. on imports in favor of French manufacturers. Under such circumstances Consul Strickland does not see how it is possible for Americans to hold their own in Africa, with respect to general lines of merchandise. The situation is emphasized by the certainty that the various European powers now having a foothold in Africa will in time, in self-defense, be forced to make commercial treaties each with the others, "and it is American trade only which is doomed."

* * *

THE direct importation of India-rubber from Madagascar has practically stopped. In September THE INDIA RUBBER WORLD reported the death of George Ropes, of Boston, who was long engaged in the East African trade, but his company ceased to import India-rubber from Madagascar two years ago, on account of the trade having fallen to such a great extent into the hands of French and German merchants.

CANADA MAKES A GOOD SHOWING.

THE total quantity of Canadian imports of crude India-rubber, reclaimed rubber, and crude Gutta-percha, during the fiscal year which ended on June 30 last, was larger than in any former year, according to official reports with which THE INDIA RUBBER WORLD has been favored in advance of their publication at Ottawa. It is impossible, however, from the data received, to distinguish, as in former years, between new gum and reclaimed rubber. The figures are given herewith, in comparison with five years past, the figures expressing weight in pounds:

YEARS.	India-Rubber and Gutta-Percha.	Reclaimed Rubber and Substitute.	Total.
In 1891-92	2,100,358	106,080	1,610,898
In 1892-93	2,152,855	195,281	2,206,438
In 1893-94	2,077,703	529,900	2,348,136
In 1894-95	1,402,844	611,745	2,014,589
In 1895-96			2,798,733

The total value of the imports for 1895-96 was $1,113,042. The value of manufactures of India-rubber and Gutta-percha imported into the Dominion during the same fiscal year were smaller than in any preceding year, which fact, in connection with the growing consumption of raw rubber, argues that the industry must be making continual strides. According to the last census of Canada the rubber industry there had increased nearly three-fold from 1880 to 1890. It is shown by the figures above that the imports of raw rubber have increased more than 50 per cent. over the figures for the last census year. The Canadian rubber-men, therefore, do not appear to be lacking in enterprise. But to return to the importations of rubber goods, which were as follows:

	Value.		Value.
In 1890-91	$806,207	In 1893-94	$524,379
In 1891-92	656,921	In 1894-95	420,346
In 1892-93	696,020	In 1895-96	350,982

The amount of the exports of manufactured India-rubber has not yet reached important proportions, having amounted, during the last fiscal year, to only $33,762.

ANOTHER RUBBER-SHOE FACTORY FOR CANADA.

MR. C. L. HIGGINS, who is well known among rubber shoe men in the United States, as not only an inventive genius but a progressive business man, is at the head of a corporation that is about to erect a factory at St. Jerome, Canada, for the manufacture of rubber footwear. The town where the plant is to be located, is about thirty miles north of Montreal, on the Canadian Pacific railroad. The company own a water-power of some 700 horse and in addition to this the town has voted them $50,000, as a bonus, and twenty years exemption from taxation. It is proposed to erect for a main building, one of brick, 200 feet long, 70 feet wide, and three stories in height. Mr. Higgins, who has associated with him Mr. Westgate, his partner in the Hudson Bay Knitting Co., Montreal, is the owner of a number of valuable patents on rubber footwear, which he intends to exploit by means of this factory. The new concern plan to be turning out shoes about the first of May, 1897. The newspapers have it, by the by, that the new concern is to be called the "Boston Rubber Co." Mr. Higgins, however is authority for the statement that the name of the company is as yet not decided upon.

AMERICAN GAINS IN EUROPE.

APROPOS of the sale of American single-tube tires in Europe, two points in THE INDIA RUBBER WORLD recently may be recalled—the assertion of two bicycle manufacturers just returned from the other side that the single-tube tire must speedily come in vogue with foreign bicyclists, and that of a leading tire-manufacturer that the Dunlop type of tire is unsuited to wooden rims. Since these items were printed New York has had a visit from A. Clement, who owns the largest bicycle and motor-wagon factory in Paris, and who was not long on our shores before the report was published that a factory is to be established in Europe with a yearly capacity for 500,000 wooden rims of the style made by a leading Boston concern. M. Clement is credited by *The Wheel* (New York) with having been instrumental in arranging the details for the new enterprise, which means, if anything, that the opening for single-tube tires in the European bicycle market may appear sooner than a good many people, here and abroad, have been thinking.

Apart from the matters above referred to, however, M. Clement's object in visiting America is one which will be pleasing to our mechanics. To an interviewer for the New York *World* he said that he had come here to buy machinery for increasing his plant in Paris. Since January 1 he had sold, he said, 20,000 wheels, which taxed the capacity of the works, and he could have sold 40,000 if they could have been made. Another statement by M. Clement was that there are now more than a thousand motor-wagons on the streets of Paris. But, to return to American machinery, there is a notice in a recent issue of *The Wheelman*, a British journal, of The Scottish Manufacturing Co. (Glasgow), engaged in the bicycle trade and becoming interested in tires. The manager, our contemporary says, "is never satisfied till he has got the very best equipment for the special service he has in view the world can afford. Unfortunately for British resources, the world generally spells A-M-E-R-I-C-A, but, home or foreign, it must be got, the consequence being that now the able manager has one of the most perfect factories north or south of the Tweed."

With important bicycle concerns in France and Great Britain buying machinery made in the United States,—and in one case with the avowed purpose of equipping wheels with a tire to which single-tube tires are suited while "Dunlops" are not,—it would seem that the prospect of exporting American rubber tires ought to be something more than a dream.

END OF THE STERLING RUBBER CO.

AN assignee's sale on October 26 completed the history of the Sterling Rubber Co., organized at the beginning of 1895 for the manufacture and jobbing of mackintoshes and rubber clothing, with headquarters at No. 111 Duane street, New York. The firm was composed of John H. Tissot, Jr., a contractor for government supplies, who was understood to be the capitalist; Charles H. Bishop, previously a well known salesman for the American Rubber Co., who was general manager; and John L. Schultz, a brother-in law of Tissot. Several months ago Mr. Bishop went over to the Enterprise Rubber Co., and on September 14 an assignment was made by John H. Tissot, Jr., general contractor and dealer in rubber goods and supplies, and by Tissot and Schultz, doing business as the Sterling Rubber Co., to John M. Ruck, a lawyer at No. 132 Nassau street. The auctioneer who made the sale was C. H. Luengene. There were offered, on account of the rubber company, 775 rubber garments and 543 pairs of tennis-shoes, most of which were knocked down to William Morse & Co. (New York), and some office and store fixtures.

THE AMOUNT OF RUBBER USED IN TIRES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your October issue, on page 4, was a quotation from the Boston *Commercial Bulletin*, to the effect that the rubber-tire industry demanded but 8 per cent. of the imports of Pará rubber in the United States. This was so manifestly an erroneous statement, that I would like to call your attention to the fact, as you hint yourself in the article that there have at least been made in this country 1,500,000 sets of tires during 1896. Now all these tires are not as good as they ought to be, but the people who make tires as they ought to be made use very close to three pounds of Pará rubber in a set of tires. Not perhaps so much of the dried rubber, but the rubber importations are quoted as crude, and you know what the shrinkage on crude rubber is. If, then, three pounds of crude rubber go into a set of well-made tires, that would make a matter of 4,500,000 of pounds of rubber, or 2250 tons, instead of 750 tons as stated by the *Bulletin*. There may be manufacturers who use reclaimed rubber at fifteen cents a pound to make "good tires," but they are certainly not working for a permanent business, or making tires which they expect to last. I believe, though I have no statistics at hand, that there are about 10,000 tons of Pará rubber imported into this country per annum, and I think you will find, if you will figure up the whole thing, that the tire industry uses up quite a quarter of all this amount.

THEODORE A. DODGE.

Boston, Mass., October 17, 1896.

THE TRADING IN RUBBER STOCKS.

FROM the first week in May until within a few days past the trading in stocks of the United States Rubber Co. was unimportant in volume, with uniformly low prices ruling—the lowest, in fact, in the history of the company. The record for October follows:

LISTED ON THE NEW YORK STOCK EXCHANGE.
201,660 shares Common=$20,166,000.
194,005 shares Preferre =$19,400,500.

DATES.	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
October 1-3.....	25	16⅝	16	....	...	....
October 5-10.....	982	16	15	190	70	68
October 12-17.....	800	15	14½	1,272	68½	65
October 19-24.....	10,120	20⅞	16	1,931	70½	66¾
October 26-31.....	5,633	20⅞	19¼	3,325	71¼	69½
Total.....	17,558	20⅞	14½	6,718	71¼	65

The heaviest transactions of the month were on October 24, when, in harmony with many other stocks, Rubber Common made a marked advance. There has been a further rise in quotations since the 1st of November.

THE Hood Rubber Co. (Boston) filed a certificate of incorporation under the laws of Massachusetts on October 12. The capital stock is $50,000, in shares of $100. The directors are Albert D. Bosson (president), Frederic C. Hood (treasurer), and Arthur N. Hood. Their object is the manufacture and sale of rubber goods, and their factory at East Watertown, Mass., has been described already in THE INDIA RUBBER WORLD.

THE RUBBER-MEN AND SOUND MONEY.

THE Saturday previous to election all over the country was distinguished as a great day for political parades. Especially was this so in New York and in Boston. In both of these cities the rubber men were prominently identified with the movement and turned out goodly bodies of men. In New York for instance the rubber manufacturers having been invited to parade, the matter was taken up with a great deal of enthusiasm by the Peerless Rubber Mfg. Co., who gathered the money for the campaign expenses and did the planning for the rubber parade. An impromptu feature of exceeding interest in connection with the Peerless was a banquet given by them at the St. Denis hotel to their employés and invited guests. It seems that President Dale discovered that the sound money men in his factory had made preparation to appear in the parade. He therefore invited them first to a dinner. In addition to the employés, about a hundred in number, Mr. Charles H. Dale, Pres., and C. C. Miller, Treas., of the Peerless Rubber Mfg. Co., there were invited as guests Mr. Henry C. Pearson and John R. Dunlap of THE INDIA RUBBER WORLD, Col. Kip, of the Goodyear Rubber Co., Mr. Arnold of the India-Rubber Glove Co., Mr. Chapman of the Butler Hard Rubber Co., Mr. Francis H. Robinson, Mr. Tallman, Mr. F. S. Rix, and Prof. G. S. Murphy, Mr. J. H. Deming, Supt. of the Peerless Rubber Mfg. Co., Mr. Chas. Tucker, Asst. Supt., Mr. Orville Libbey, and Mr. J. M. Sweeny, both of them traveling salesmen for the Peerless, were also present and rendered effective assistance in handling the men both before and after the parade.

C. H. DALE, CAPTAIN.

A fine course dinner was discussed by both the employés and invited guests with most evident relish. When the last covers were removed and cigars lighted, President Dale arose and in a happy manner, introduced to the audience the editor of THE INDIA RUBBER WORLD. At the close of his remarks, which were received with enthusiasm, short speeches were made by Mr. C. C. Miller, Mr. Orville Libbey, and Mr. Joseph L. Gilman. By that time it was necessary that the men start for their rendezvous, which was Bond street, their right resting on Broadway. Here the rubber division which numbered all told some five hundred men were given the position of honor, that is the left of the line, and headed by a seven foot "yellow boy" clad in bright yellow started in to march like veteran soldiers. This darky leader by the way who was dubbed the Peerless yellow kid was a feature of the parade that drew out unbounded amusement and interest.

THE RUBBER BANNER IN BOSTON.
[From the Boston Globe.]

The rubber men had their own band which played patriotic airs the whole of the time that their parade was in progress. The formation of the rubber division was as follows: The Peerless Rubber Mfg. Co. with six full companies of men headed by Chas. H. Dale the president of the company, as captain of the first company, Mr. C. C. Miller the treasurer as the captain of the second company. Then came the Goodyear India-Rubber Glove Company with three companies, the New York Belting & Packing Co., Captain George in command, with three companies, then the Butler Hard Rubber Co., Captain Arnold, with two companies; next the India Rubber Comb Co. two companies; then the Gutta-Percha & Rubber Mfg. Co., one company; next the Revere Rubber Co., one company; and finally the Goodyear Rubber Co. with Col. Kip at the head with two companies. In addition to the concerns named there were represented the Columbia Rubber Works Co., the Penn Rubber Co., the Enterprise Rubber Co., the Mattson Rubber Co., the Home Rubber Co., the Metropolitan Rubber Co., the New Jersey Car Spring & Rubber Co., the Eureka Fire Hose Co., Simpson & Beers, the New York Commercial Co., the Coronado Rubber Co., and the United States Rubber Co.

C. C. MILLER, CAPTAIN.

The men carried canes surmounted with flags and wore neat yellow badges. The concerns assembled in the rubber division do not cover by any means the rubber industry as represented in the parade. There were in addition the Manhattan Rubber Mfg. Co. and the Mineralized Rubber Co., who marched with the Machinery and Railway Supply men; Parker, Stearns & Sutton, who were with the drug and chemical trades; the United States Rubber Co., with the boot and shoe trades; the Stephen Ballard Rubber Co., and the Safety Insulated Wire & Cable Co., with the hardware trade; American Wringer Co., with the wholesale dry goods trade, and Flint, Eddy & Co., with the Produce Exchange.

BOSTON SOUND MONEY PARADE.

For an affair that was gotten up almost on the spur of the moment the Boston parade was a most signal success. In response to a circular some twenty-four concerns met in the ample warerooms of the Boston Belting Co., and made the initial preparations, Mr. G. P. Whitmore of that company, and Mr. W. A. Clapp of the Boston Rubber Co., being selected as the individuals on whom the special duties of organization devolved. On the day of the parade the men were formed in Winthrop square, facing the offices of the Boston Belting Co. and the Boston Woven Hose & Rubber Co., which were resplendent with bunting, flags and pictures of the Republican nominees for president and vice-president. They were headed by the Lynn Cadet Band, and made a fine appearance as they marched to their rendezvous. It had been expected that Capt. Harry E. Converse, of the Boston Rubber Shoe Co., would act as marshal, but his hard work in the campaign in Malden rendering it impossible, Mr. Geo. H. Forsyth, Assistant General Manager of the Boston Belting Co., consented to serve. The chief marshal of the parade wishing to have the rubber trade represented on his staff, Mr. C. J. Bailey was elected to that position, and did excellent service, being constantly in the saddle from start to finish of the parade. The Boston rubber division was a truly representative one in that it was made up almost entirely of the office men. The single exception to this was the body of men furnished by the Newton Rubber Works, numbering sixty men, and led by their own drum corps. Their captain was Mr. S. H. Woodward, superintendent of the factory. The rubber men had a large banner inscribed "The rubber trade is for sound money, first, last and all the time," carried by two powerful colored men clad from head to foot in rubber, a feature appreciated by the cheering crowds.

C. J. BAILEY, AIDE TO CHIEF MARSHALL.

An incident of interest as showing the general enthusiasm was the action of Mr. James Bennett Forsyth, general manager of the Boston Belting Co. He had not planned to march, but as the men filed by he was simply unable to resist the infection of the hour, but stepped out and joined the ranks. He was received with cheers and at once made an honorary aide. The men all carried flags and were decorated with yellow rubber trade badges. In the procession the aides were Mr. E. P. Whitmore, Mr. W. A. Clapp, and Mr. E. S. Williams. The companies represented were the Boston Belting Co., the Boston Woven Hose & Rubber Co., the Revere Rubber Co., the American Rubber Co., the Apsley Rubber Co., Geo. A. Alden & Co., Reimer and Meyer, Boston Rubber Co., C. J. Bailey & Co., Boston Gosssamer Rubber Co., Boston Rubber Shoe Co., Conant Rubber Co., Davidson Rubber Co., Cable Rubber Co., Franklin Rubber Co. Chas. A. Coe & Co., Clive & Krim, Converse & Pike, E. H. Clapp Rubber Co., United States Rubber Co., Clifton Mfg. Co., Enterprise Rubber Co., Elastic Tip Co., Globe Rubber Works, Hodgman Rubber Co., Stoughton Rubber Co. The men in line cheered all the rubber stores as they passed and as in New York they bore off the marching honors.

GEORGE H. FORSYTH, MARSHAL.

As we go to press word comes that the Boston trade have just sent a card of thanks to the Boston Belting Co. for their kindness in placing their offices and warerooms at the disposal of the trade and for the interest that they had manifested in the cause of sound money. This was signed by some twenty-four concerns.

TRADE AND PERSONAL NOTES.

THE National India Rubber Co. have vacated the spacious offices ocupied by them for more than two years past in the Industrial Trust building at Providence, R. I., and removed their clerical force to Bristol, where the factories are located. This step is understood to be a part of the policy of economy being pursued in all departments by the United States Rubber Co. All reports from Bristol of late indicate that a busy season has opened there, with a steadily-increasing volume of orders and the necessity of adding constantly to the working force. On one day recently the largest shoe ticket ever made at Bristol was turned out, amounting to 20,600 pairs.

=The two factories of the Goodyear's Metallic Rubber Co. (Naugatuck, Conn.) during part of last month turned out 21,000 pairs of boots and shoes daily, or a larger quantity for each twenty-four hours than was ever produced before in the history of the company. Fifteen hundred hands were employed on full time. There have been unusually large orders in hand, and at one time it was reported that the company were 40,000 cases behind their orders. The factory resumed work on September 1, with 1400 employés.

=The new Banigan rubber factory at Olneyville, R. I., is provided with a machine-shop which forms a prominent part of its equipment. It is said to be one of the best-fitted machine-shops to be found outside of an establishment not organized to manufacture machinery. Much of the rubber plant required by the Banigans is being made here, and it is expected that the repair work will be taken care of under the same roof. The people of Olneyville feel that the new enterprise is being established on such a substantial basis as to insure its permanence and success.

=George Watkinson & Co., at their new factory in Philadelphia produce a strictly high-grade line of rubber footwear branded "Thistle." Their factory is described as a model of good equipment.

=The Woonsocket Rubber Co. have also vacated their offices in the Industrial Trust building, Treasurer Frederick Cook and his force returning to Woonsocket. The work of the selling department, since the retirement of Walter S. Ballou, has been transferred from Providence to the Boston office of the company.

=The recent report that the Warren Rubber Co., at Warren, Ohio, had been incorporated with $20,000 capital, was a mistake. The concern referred to is the Warren Publishing Co.

=The Peoria Rubber and Manufacturing Co. (Peoria, Ill.) will add a department to their plant for bicycle-pedals.

=The Newton Rubber Works Co. (Newton Upper Falls, Mass.) have established a branch at No. 103 Reade street, New York, in charge of L. F. Stillwell. Their product hereafter will be known as the "Newton" single-tube and double-tube tires.

=The British American Ball Nozzle Co. were awarded a gold medal at the recent Sport and Health Exhibition at Innsbruck, Austria, for ball nozzles for fire engines and for surgical syringes.

=The convention of the Carriage Builders' National Association announced for last month in St. Louis, was not held, owing to the dull condition of the carriage and allied trades and the fear on the part of the management that it might not prove so great a success as hitherto.

=The Hon. E. S. Converse, president of the Boston Rubber Shoe Co., has bought two pieces of real estate in the heart of the business district of Boston, known as the Weld and Milliken estates, on the corner of Milk and Pearl streets, and diagonally opposite the post-office. The price is said to have exceeded $225,000.

=Lester Leland, treasurer of the Boston Rubber Shoe Co., has lately been on a business trip to England.

=Mr. John D. Carberry, of the business offices of the United States Rubber Co. in New York, who has been in the employment of the company from the beginning, was married on October 6 to Miss Jennie May Barron, of Orwell, Vt., in which town Mr. Carwell formerly held a position in a bank.

=The New York Tire Co. have established a branch office at Cleveland, Ohio, in charge of Harrison P. Smith.

=The New Brunswick Tire Co. (New Brunswick, N. J.) have opened a branch office in Chicago, in the Garden City block, which will be the western headquarters for "Volt" and "Trim" tires.

=Not long ago a wholesale druggist presented to the Davidson Rubber Co. (Boston) a Davidson syringe that was thirty-five years old and was still in condition to use. The rubber had retained its life and all of the parts although showing wear, were in good condition.

=The Trenton Rubber Co. (Trenton, N. J.) under the able management of Mr. Edward H. Garcine, recently paid in full their second extension note of $38,000 and prospects are good that they will shortly be on a solid finanncial basis.

=Mr. W. T. Baird, treasurer of the Mechanical Rubber Co. during his recent outing in Canada, shot a fine bull moose, and also bagged one of the largest caribou that has been killed in Canada for several years.

=Probably few of the present generation know that many years ago the Boston Belting Co. made rubber shoes, and was known at that time as the Goodyear Metallic India Rubber Mfg. Co.

=The World Mfg. Co., 80 Reade street (New York), are putting on the market the neatest type of bicycle wrench that has yet appeared. It is made by the Waterbury Wrench Co., the World Mfg. Co. being their general sales agents.

=The Globe Rubber Co. (Trenton, N. J.), who have made quite a specialty of rubber tubing, sold over 3,000,000 feet in '95, while the present year will show a still larger output.

=The North British Rubber Co., Limited, have the largest manufactory and are the largest employers of labor in Edinburgh, giving employment to something over 2500 hands. They are manufacturers of the "Clincher" tire—though this forms a comparatively small feature of their business—and of late have been lightening and otherwise improving the tire.

=William R. Dimond, who died at his home at Newton Lower Falls, Mass., on September 7, had been engaged in the rubber-stamp business in Boston for sixteen years. He was the postmaster at Lower Falls.

=The Montreal Waterproof Clothing Co. (Montreal, Que.), who recently made an assignment, submitted a statement showing liabilities of about $70,000 and assets on paper amounting to $49,000. They have made an offer to pay 25 cents on the dollar, at two, four, and six months. The sole partners in the concern are Jacob Wener and Harris Wener, who claimed at the end of last year a surplus of $15,000 to $20,000.

=The Eastern Electric Cable Co. (Boston), in whose factory the Lombard water wheel governor was invented, have had several hundred of them built in their own machine shop on orders secured all over the country. Manager Clark informs THE INDIA RUBBER WORLD that the governor is the first really successful one that has ever been used in connection with water power.

=The New Brunswick Tire Co. (New Brunswick, N. J.) are out with a very handsome hanger representing a female figure heroic size, holding in her left hand a sword, in her right hand a banner with an appropriate phrase regarding New Brunswick tires, while over the arm are hung several of the basket tread tires. About the pedestal of the statue are grouped cyclists by the hundreds who by their enthusiastic manner are awarding to the New Brunswick Co. the palm of excellence. The hanger is really a very artistic and beautiful piece of work, and must be seen to be appreciated.

=The firm "Deutsche Kabelwerke [German Cable Works], formerly Hirschman & Co., Actien-Gesellschaft, Berlin," has been entered in the Berlin trade record. The object of the concern is the construction of electrical conduits and cables of all descriptions, the manufacture of India-rubber and Gutta-percha for electrical and other uses; also the manufacture of all articles pertaining to wires and cables. The stock capital is 1,000,000 marks. The founders of the company are Messrs. Carl Chrambach, banker, Berlin; Director-General Oscar Kummer, Dresden; Julius Hirschmann, banker, Nuremberg; Director Victor Melcher, Dresden; Siegfried Hirschmann, Bernhard Hirschmann, Moritz Krämer, merchants, Berlin. The former owners received for the business, which was entirely free from debt, 790,000 marks in shares, and 160,000 marks in cash.

=The asbestos and rubber works of Alfred Calmon, Hamburg, are to be converted into a stock concern, with a capital of 1,500,000 marks in common, and 1,000,000 marks in preferred stock. Among the founders are Behrens & Sons, bankers, the Hamburg branch of the German Bank; Director Deutsch of the Universal Electrical Co, Berlin; and Director Seligman, of the Hanover Caoutchouc works.

=Mr. R. M. Howison, American representative of the firm of Sgal & Co., Liverpool, informs THE INDIA RUBBER WORLD that the home firm owing to increased business have removed from King street to more commodious quarters, at African Chambers, Old Hath street, which is the center of the crude rubber trade in Liverpool.

=Joseph Banigan has filed a plea with the clerk of the common pleas court at Providence, R. I., asking that the Woonsocket Rubber Co. be compelled to produce the alleged agreement upon which their $500,000 suit against him is based. It is claimed that when the Woonsocket was merged into the United States Rubber Co., Mr. Banigan, as a stockholder in the former, signed an agreement with respect to guaranteeing the assets which has never been made good, and Mr. Banigan asks to see the paper.

=A legal tangle has arisen from the will of the late John F. Holt, a large stockholder in the Woonsocket Rubber Co., who bequeathed 2200 shares of United States Rubber common stock to a number of persons, giving 200 shares to each. After Mr. Holt's death, in February, 1896, it was found that he had disposed of all his common stock in excess of 200 shares, which are claimed by the first legatee on the list of those to whom the rubber shares were to be given. The executors favor a division of the 200 shares equally among the legatees. The latter, however, have united in an action to have the executors ordered to purchase from the funds of the estate a sufficient number of shares to comply with the terms of the will. The inventory of the estate filed with the court gives its value at $483,144.59.

=Thos. Martin & Brother Manufacturing Co. (Chelsea, Mass.) are having erected a two-story building, 132×46 feet, in which is to be accommodated the plant of the Canadian Elastic Web Co., in operation for eight years past at Niagara Falls, Ont., as a branch of the Chelsea concern. It is stated that the reduction in the Canadian import duties on elastic webbing two years ago had an unfavorable effect upon the Canadian business of this company, on which account the plant at Niagara Falls is to be returned to the United States.

=The new factory of the Goodyear Rubber Co. (Middletown, Conn.) is being equipped with an automatic sprinkling system.

=George Deshler, private secretary to Superintendent Schlosser, of the National India Rubber Co. (Bristol, R. I.) has resigned, to take a place in the offices of the United States Rubber Co. in New York.

=George F. Pierce, formerly superintendent of the Ætna Rubber Works, Jamaica Plain, and later of the I. B. Kleinert Rubber Co., College Point, Long Island, is now located in New York as selling agent for the Convertible Chair Co.

=George Watkinson & Co. (Philadelphia) are reported to have broken ground for an addition to their rubber-shoe factory which will enable them to manufacture 12,000 pairs daily.

=The two New York stores of the Hodgman Rubber Co. have remained open during the month, and the factories at Mt. Vernon and Tuckahoe have been in operation within the scope of the authority vested in Receiver Todd by his order of appointment from the court, and by the vote of the creditors at the Astor House meeting. Mr. Todd advises THE INDIA RUBBER WORLD that the work of securing signatures to an agreement on the part of the creditors to accept the terms of settlement proposed by the Messrs. Hodgman is in progress, but that it is work which under any circumstances requires considerable time. The Boston store of the company has also been open, in charge of the ancillary receiver, Mr. Noyes.

=Spinney, Virtue & Co. (Lynn, Mass.), manufacturers of rubber electrical supplies and mechanical goods, made an assignment of all their property and estate, in trust for their creditors, to Charles H. Arnold, of No. 150 Franklin street, Boston. Accounts due the firm in New York have been attached on a claim of Reimers & Meyer amounting to $8836, for crude rubber.

=The Hood Rubber Co., Watertown, Mass., made their first rubber shoe the day after McKinley was elected.

=It is not generally known perhaps that the business in carpet-sweeper bands is a very large one, and that the headquarters for this business is Prescott Bros., 54 Cornhill, Boston, Mass.

=Mr. E. E. Buckleton, who for several years represented the Boston Woven Hose and Rubber Co., in San Francisco, has gone to London, England, where he will represent the same company, devoting special attention to their "Vim" tires. Mr. Buckleton is just the man to fill such an important position to the satisfaction of both employer and customer.

=Mr. Henry F. Knowles, of the Globe Rubber Works (Boston, Mass.), for a sort of fall vacation has gone south, stopping at Washington and Harper's Ferry, his objective point being Gettysburg.

=Mr. Samuel P. Langdon, formerly assistant superintendent at the New Brunswick Rubber Co. (New Brunswick, N. J.) has been engaged as superintendent of the shoe department of the Gutta-Percha and Rubber Mfg. Co., Toronto, Canada.

=Mr. N. Lincoln Greene has just returned from a five weeks' trip through the west where he has been marketing the mackintoshes of the Boston Rubber Co. His trip was in every way successful and he booked many large orders.

=The Birnbaum Rubber Co., No. 47 East Twelfth street, New York have retired from business, their manager, R. Hanseli, returning to England. Under this name had been conducted, since the beginning of 1893, an American agency of B. Birnbaum & Son, Limited, a long-established London house in the mackintosh trade. It will be remembered that Messrs. G. & J. Kutnow represented this same manufacturer successfully for over five years, started their factory in this country, and then gave up their contract on an issue of principle. Curiously enough this same concern were called upon to close out their entire stock of mackintosh garments. With characteristic energy and skill the Messrs. Kutnow closed out the whole stock successfully in a very short time, the buyers being large houses in New York, Philadelphia, and Chicago.

=The New Jersey Car Spring and Rubber Co. (Jersey City, N. J.), have placed the agency for their full line of mechanical rubber goods with the Whitney & Sloo Co., of New Orleans, for the territory adjacent to that city. This latter company is one of the largest and best known houses in the South. They will carry a full stock of mechanical goods including cotton and linen hose and the well known Gladiator Quilt Stitched Belt. This arrangement by the way will carry with it naturally the agency for the Eureka Fire Hose Co.'s brands of fire hose, thus giving the Whitney & Sloo Co., one of the most complete lines in the country.

=Morgan & Wright (Chicago) are on the market with a full line of pedal rubbers made in a variety of sizes and in some very neat attractive new styles.

=Mr. J. B. Lawton, of the Clifton Mfg. Co. (Boston), recently spent some time in New York City, where he took some very gratifying orders for the Clifton Fire-proof Insulating Conduit which is made of semi-hard rubber.

=Col. Perkins, Pres., H. C. Corson, Vice-Pres., B. G. Work, Supt., of the B. F. Goodrich Rubber Co., Akron, O., were all recent visitors to New York and made their headquarters at the Columbia Rubber Works office, 68 Reade street, New York.

=Mr. S. Y. L'Hommedieu, of the Columbia Rubber Works Co. (New York), has resigned his position there, the resignation having been accepted by the other members of the company.

=The Mishawaka Woolen Manufacturing Co. (Mishawaka, Ind.), it is estimated, will use seventy-five carloads of rubber overs this season in combination with their knit boots and lumbermen's socks.

=The Clifton Rubber Manufacturing Co. (Boston), have secured the contract for furnishing the new $3,000,000 hotel now in process of erection in Boston, with their patented semi-hard-rubber interior conduit.

=The Mundell Rubber Co. has been reorganized since the recent death of James Mundell, of Philadelphia, who was its proprietor. The office is now at No. 531 Market street, Philadelphia, which is the address of J. G. Grieb & Sons, of the shoe trade. The factory, at Millham, near Trenton, N. J., is operated mainly in the production of rubber soles.

=J. H. Whittemore, a wealthy citizen of Naugatuck, Conn., interested in recent large real-estate transactions at Waterbury, Conn., is not, as several newspapers have had it, a "millionaire rubber-manufacturer," but a member of the firm of Tuttle & Whittemore, iron-founders. Mr. Whittemore was at one time, however, a shareholder in the Goodyear's Metallic Rubber Shoe Co., but he is said to have disposed of his holdings at the time of the organization of the United States Rubber Co.

=The factories of the Boston Rubber Shoe Co. started on full time on October 26, and are now giving employment to about 3800 hands. Since early in September the factories had been run on three-quarters time, and with a reduced force. There is now every prospect for a busy winter.

=Mr. W. N. Lockwood, Treasurer of the Davidson Rubber Co. (Boston), was the winner this year of an exceedingly beautiful silver loving cup, the trophy being given by the Lexington Golf Club, Lexington, Mass.

=The Granby Rubber Co. (Granby, Que.) are putting in machines for the manufacture of cartons, which they use extensively in putting up their goods.

=The Mechanical Manufacturing Co., (Boston,) are fitting John Jacob Astor's new electric yacht *Utopia* with their air mattresses and pneumatic cushions.

=Messrs. Latta & Mulconroy (Philadelphia, Pa.), large handlers of mechanical rubber goods, ask for the address of the manufacturer of the "humane" rubber police club. If this catches the eye of anyone posted on this topic a reply will oblige.

=Prof. La Belle (Salt Lake City, Utah), is said to have found a solvent for elaterite, or mineral rubber, which makes it a first-class substitute for recovered rubber.

=For some time past the New York Belting & Packing Co., Ltd., have been working night and day in manufacturing interlocking rubber tiling. Notwithstanding the dull times, they have, within the past two weeks, taken orders for three prominent hotels in New York city; a well-known club in Cincinnati; 32 dining and sleeping cars; one steamship, and one United States battle ship. The first lot of tiling laid was in the Broad street depot of the Pennsylvania Railroad, Philadelphia. After a wear of two and a half years, with an average of 50,000 people passing over it *each day*, a careful test with a straight-edge shows the tiling to have worn down only one-sixteenth inch, and that only in spots where nine-tenths of the passing is concentrated. Not a cent has been spent for repairs since it was laid.

REVIEW OF THE INDIA RUBBER MARKET.

WHATEVER may be the nature and extent of the return to prosperity which is so confidently expected in every branch of industry and trade in the United States, the national elections, regarded as the turning-point, have been of too recent date to permit of the recording of any change, one way or the other, in the crude-rubber market. There is still to be reported a condition of dullness in Pará rubber, with buying continued during the past month on a scale limited to the actual requirements of consumers. Prices have remained firm, however, the month having shown no fluctuations of note. For a month past the rubber-shoe factories in the United States have been active, trying to make up for the time lost in the summer, and some of them are being worked at their utmost capacity. In the bicycle-trade the recent heavy crop of failures appears to have come to an end, leaving the business as a whole in good condition, with the prospect of a demand for rubber even heavier next year than in the past. The mechanical rubber-goods production is certain to increase in keeping with the promised development in many lines of industry, so that at least the normal consumption of Pará grades is to be expected during the coming year. As for supplies, the visible stocks in the world are now slightly in excess of the holdings one year ago, while the Pará output since July 1 continues larger than in the same period of any former year. The excess is not so great now however, as it was one month ago, and, as everybody knows the production of Pará rubber can never be predicted with very great certainty.

Kramrisch & Co. (Liverpool), in a recent circular, give expression to an opinion which has already found place in this department, viz.: that the unusually large receipts of rubber at Pará for this period of the crop season "must not be taken so much as a sign of increasing production as the outcome of a better and easier communication with the interior." They report the sale of some important parcels of Mollendo rubber (Bolivian) at Liverpool, at prices ranging from 3/3½ to 3/4½ per pound, with Islands fine quoted at 3/6½. In regard to Lagos rubber they say: "Lagos has, as we have already reported, become a rather speculative article, small quantities changing from hand to hand so often within one day that the turnover seems to be a very important one, while only a five or ten ton parcel may be the basis of it."

The latest quotations in the New York market are:

PARÁ.		
Islands, fine, new	81½	@82¼
Islands, fine, old	none here	
Islands, coarse, new	47	@47½
Islands, coarse, old	none here	
Upriver, fine, new	83	@84
Upriver, fine, old	87	@88
Upriver, coarse, new	56	@58
Upriver, coarse, old	none here	
Caucho (Peruvian) sheet	43	@44
Caucho (Peruvian) strip	45	@46
Caucho (Peruvian) ball	50	@51
CENTRALS.		
Esmeralda, sausage	49	@50
Guayaquil, strip	33	@40
Nicaragua, scrap	48	@50
Nicaragua, sheet	none here	
Mangabeira, sheet	40	@42
AFRICAN.		
Thimbles	34	@35
Tongues	38	@39
Sierra Leone	25	@52
Benguela	49	@50
Congo Ball	39	@41
Cameroon Ball	38	@39
Flake and Lumps	25	@26
Accra Flake	18	@20
Accra Buttons	47	@49
Accra Strips	51	@54
Lagos Buttons	42	@43
Lagos Strips	43	@44
Liberian Flake	30	@
Madagascar, pinky	58	@60
Madagascar, black	42	@43
Mozambique, red ball		@
Mozambique, white ball		@
EAST INDIAN.		
Assam	42	@56
Borneo	26	@41
GUTTA-PERCHA.		
Fine grade		1.30
Medium		1.00
Hard white		85
Lower sorts		
Balata		

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	8 $100	Upriver, fine	
Islands, coarse	4 $100	Upriver, coarse	

Exchange 8 1/32

[The latest cable from Pará up to the time of going to press gave 8 $600 for Upriver fine, but since its receipt Islands fine has advanced 300 reis, with what effect upon Upriver is not known.]

PRICES FOR OCTOBER (ISLAND RUBBER).

	1896. Fine.	1896. Coarse.	1895. Fine.	1895. Coarse.	1894. Fine.	1894. Coarse.
First	80	47	76	49	68	46
Highest	82	48½	81	52	69½	47
Lowest.	80	47	76	49	67½	45
Last	81	47	80	51	69½	47

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Totals.	Totals. 1895.	Totals. 1894.
Stock, September 31	210	107 =	317	190	964
Arrivals, October	531	228 =	759	989	807
Aggregating	741	335 =	1076	1179	1771
Deliveries, October	486	215 =	701	968	907
Stock, October 31	255	120 =	375	211	864

	1896.	1895.	1894.
Stock in England, October 31	845	342	745
Deliveries in England, October	775	900	775
Pará receipts, October	2110	2100	1850
Stock in Pará, October 31	250	725	555
World's supply Oct. 31 (excluding Caucho)	2471	2251	3001
Pará receipts since July 1	5830	5380	5020

THE ANTWERP RUBBER MARKET.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the month of October the demand for Congo rubber in this market has been brisk, at gradually stiffening prices. Sales have aggregated 156 tons (against 64 tons in the same month last year), of which 38½ tons were disposed of in the auctions of October 21. The most interesting sales were:

Thirty tons Lopori balls (expected by the steamer *Leopoldville*, due by the end of the month), at 6.15 francs per kilogram; 10 tons Lopori, ditto, at 6.20 francs; and 9½ tons Lopori, ditto, at 6.25 francs per kilogram, or a gradual rise of 1½ per cent.

Thirty tons red Congo thimbles, to arrive within three months, sold at 3.60 francs, against 3.45 paid in September.

Sixteen-and-one half tons Equateur balls sold at 5.70 francs per kilogram; 26 tons ditto at 5.85 francs; and 2½ tons at 5.90 francs—the latter two lots in the auction of October 21.

Five tons red Kassai of fine quality sold at 7.10 francs (last price paid, 7.07½ francs); 6 tons black Kassai of secondary quality at 5 francs per kilogram.

The next sales, to take place on November 5, will comprise 27 tons. Stocks in Antwerp now amount to 26,200 kilograms. The steamer *Leopoldville* is expected from the Congo within a few days, with about 200 tons (=440,920 pounds) aboard, of which 88½ tons are already sold to arrive. This is the largest single shipment of rubber which we have yet had to report in the Congo-Antwerp trade. This serves to confirm the impression which we have entertained for some time past, viz.: that this trade is destined to become largely increased, at a not very remote date. In this connection it may be of interest to present the following comparative statement of the arrivals of Congo rubber at Antwerp and the sales here during the first ten months of the past four years, the figures expressing kilograms:

	Arrivals.	Sales.
January-October, 1893	127,404	121,562
January-October, 1894	216,258	127,358
January-October, 1895	398,927	386,380
January-October, 1896	639,762	861,075

The arrivals reported in the last line of the table do not include the large cargo afloat from the Congo, which, should it reach Antwerp within the month, would bring the total up to about 839,762 kilograms.

C. SCHMID & CO.

Antwerp, October 23, 1896.

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manáos at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

October 10.—By the steamer *Hubert*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Reimers & Meyer	103,500	29,600	61,400	..... =	194,500
New York Commercial Co.	103,500	17,900	18,700	2,500 =	142,600
Sears & Co	49,300	12,700	33,200	13,400 =	108,600
Otto G. Mayer & Co.	5,200	1,200	10,200	..... =	16,600
Shipton Green	12,500	2,100	1,600	.... =	16,200
P. Lima	2,700	.....	2,000	.... =	4,700
Totals	276,700	63,500	127,100	15,900 =	483,200

October 20.—By the steamer *Paraense*, from Pará:

Sears & Co	116,000	15,700	41,900	..... =	173,600
New York Commercial Co.	65,000	18,900	32,900	3,100 =	119,900
Reimers & Meyer	58,200	10,700	34,300	..... =	103,200
Otto G. Mayer & Co.	.....	.....	13,200	..... =	13,200
P. Lima	2,900	.....	2,100	..... =	5,000
Lawrence Johnson & Co.	.....	1,400	3,600	..... =	5,000
Sgal & Co.	.....	.....	3,000	..... =	3,000
Totals	242,100	46,700	131,000	3,100 =	422,900

October 19.—By the steamer *Dona Amelia*, from Manáos:

New York Commercial Co.	22,100	6,400	5,700	.... =	34,200
Reimers & Meyer	18,600	8,900	3,800	..... =	31,300
Hagemeyer & Brunn	3,600	1,100	1,000	..... =	5,700
Totals	44,300	16,400	10,500	..... =	71,200

October 29.—By the steamer *Grangense*, from Manáos and Pará:

Reimers & Meyer	183,100	24,600	80,200	1,100 =	289,000
Sears & Co	121,400	11,800	52,900	..... =	186,100
New York Commercial Co.	102,300	17,900	26,300	2,200 =	148,700
Lawrence Johnson & Co.	1,400	.....	21,600	..... =	23,000
Shipton Green	17,200	2,500	2,700	..... =	22,400
Otto G. Mayer & Co.	.....	.....	13,200	..... =	13,200
P. Lima	4,400	.....	3,800	..... =	8,200
K. Mandell & Co.	.....	.....	1,300	2,000 =	3,300
Totals	429,800	56,800	202,000	5,300 =	693,900

	1896.	1895.
January Imports from Pará	2,718,300	2,869,500
February Imports	1,945,900	2,274,400
March Imports	2,786,300	3,611,700
April Imports	1,941,500	2,156,400
May Imports	1,527,800	1,651,400
June Imports	583,900	1,030,100
July Imports	727,000	666,200
August Imports	872,500	766,500
September Imports	896,900	1,335,900
October Imports	1,671,200	1,523,700

PARA EXPORTS VIA EUROPE.

October 3.—By the steamer *Campania*, from Liverpool:

Reimers & Meyer (coarse)	20,000

October 10.—By the steamer *Umbria*, from Liverpool:

Sgal & Co. (coarse)	20,000

October 22.—By the steamer *Germanic*, from Liverpool:

Albert T. Morse (fine)	6,700

October 24.—By the steamer *Etruria*, from Liverpool:

Reimers & Meyer (fine)	5,000

October 30.—By the steamer *Campania*, from Liverpool:

Reimers & Meyer (fine)	33,500
Sgal & Co. (coarse)	7,500
Otto G. Mayer & Co. (coarse)	7,000

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York during October, 1896, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

	POUNDS.
OCT. 1.—By the *Finance*=Colon:	
W. R. Grace & Co.	4,725
A. Santos & Co	3,689
G. Amsinck & Co.	2,900

Dumarest & Co.	1,911
Lanman & Kemp.	1,564
A. P. Strout.	1,467
Hirzel, Feltman & Co.	962
Total	17,158

OCT. 1.—By the *Teutonic*=Liverpool:

Herbst Brothers.	3,400

OCT. 2.—By the *El Paso*=New Orleans:

A. T. Morse.	5,000
W. H. Crossman & Bro.	1,000
Total	6,000

OCT. 6.—By the *Adirondack*=Greytown:

A. P. Strout.	3,800
Andreas & Co.	2,500
Munoz & Espricilla	2,500
G. Amsinck & Co.	2,000
E. Cortes & Co., London.	4,000
Total	14,800

OCT. 7.—By the *El Monte*=New Orleans:

A. T. Morse.	2,200

OCT. 7.—By the *Anerley*=Truxillo:

Eggers & Heinlein	800
For London.	400
Total	1,200

OCT. 7.—By the *Seneca*=Mexico:

E. N. Tibbals.	1,000
H. Marquardt & Co.	500
J. Agostini.	200
Total	1,700

OCT. 8.—By the *Hevelius*=Bahia:

Allerton D. Hitch.	2,700

OCT. 14.—By the *Alleghany*=Cartagena:

Ricardo Alence.	2,200
A. M. Capen's Sons.	1,800
Kunhardt & Co.	900
Ellinger Bros.	1,000
Eggers & Heinlein.	300
Total	5,900

OCT. 14.—By the *Hudson*=New Orleans:

A. T. Morse.	5,000

OCT. 15.—By the *Alliance*=Colon":

G. R. Cottrell & Co.	2,340
Flint, Eddy & Co.	1,600
Ellinger Bros.	1,322
Lanman & Kemp.	1,235
Piza, Nephews & Co.	1,029
A. M. Capen's Sons.	838
W. R. Grace & Co.	600
J. Aparicio & Co.	570
Eggers & Heinlein.	500
De Sola, Hobo & Co.	191
Total	10,225

OCT. 17.—By the *Manuel R. Cuza*=Cuidad Bolivar:

For Hamburg.	18,500
Thebaud Bros.	1,500
Total	20,000

OCT. 19.—By the *Ardanrose*=Greytown:

A. P. Strout.	4,500
Andreas & Co.	2,500
Munoz & Espricilla.	2,300
G. Amsinck & Co.	1,300
A. N. Rotholz.	800
Total	11,400

OCT. 20.—By the *Paraense*=Maranham:

Reimers & Meyer.	800
G. Amsinck & Co.	300
Total	1,100

OCT. 21.—By the *Advance*=Colon:

A. Santos & Co.	13,114
Roldan & Van Sickle.	4,231
Heizel, Feltman & Co.	3,883
Frame, Alston & Co.	3,000
Dumarest & Co.	1,329
G. Amsinck & Co.	1,191
G. R. Cottrell & Co.	580
Flint, Eddy & Co.	500
J. Brandon & Bros.	473
A. M. Capen & Sons.	378
Total	28,679

OCT. 23.—By the *Alvena*=Cartagena:

W. R. Grace & Co.	3,000

OCT. 21.—By the *Saratoga*=Mexico:

H. Marquardt & Co.	5,500
E. N. Tibbals.	500
F. Probst & Co.	200
Total	4,200

OCT 23.—By the *Excelsior*=New Orleans:

Albert T. Morse.	9,500
W. H. Crossman & Bro.	6,000
Total	15,500

OCT. 23.—By the *Coleridge*=Bahia:

New York Commercial Co.	6,000
Reimers & Meyer.	7,300
Total	13,300

OCT. 27.—By the *Alene*=Cartagena:

G. Amsinck & Co.	4,000
Kunhardt & Co.	1,000
Total	5,000

OCT. 30.—By the *Harald*=Cape Gracias:

Eggers & Heinlein.	7,000
Samper & Jimenez	1,000
Total.	8,000

Total Centrals for October.	180,462
Total for September.	185,993
Total for August.	116,215
Total for July.	231,044
Total for June.	154,987
Total for May.	260,926
Total for April.	175,511
Total for March.	167,924
Total for February.	297,762
Total for January.	339,937

AFRICANS.

POUNDS.

OCT. 3.—By the *Campania*=Liverpool:

George A. Alden & Co.	9,500
Sgal & Co.	5,000
Total	14,500

OCT. 9.—By the *Scandia*=Hamburg:

George A. Alden & Co.	7,000

OCT. 10.—By the *Umbria*=Liverpool:

Reimers & Meyer.	25,800
Sgal & Co.	4,500
George A. Alden & Co.	3,600
Total	33,900

OCT. 12.—By the *British King*=Antwerp:

George A. Alden & Co.	200

OCT. 13.—By the *Cevic*=Liverpool:

George A. Alden & Co.	27,000

OCT. 16.—By the *Palatia*=Hamburg:

George A. Alden & Co.	52,200

OCT. 16.—By the *Lucania*=Liverpool:

George A. Alden & Co.	39,100
Reimers & Meyer.	10,800
Sgal & Co.	6,100
Total	56,000

OCT. 19.—By the *Sorrento*=Hamburg:

Reimers & Meyer.	9,000

OCT. 20.—By the *Westernland*=Antwerp:

Reimers & Meyer.	31,600
Otto G. Mayer & Co.	20,100
Sgal & Co.	2,200
Total	53,900

OCT. 23.—By the *Patria*=Hamburg:

Geo. A. Alden & Co.	1,200

OCT. 23.—By the *British Queen*=Antwerp:

George A. Alden & Co.	80,700

OCT. 24.—By the *Etruria*=Liverpool:

George A. Alden & Co.	50,300
Reimers & Meyer.	45,400
Total	95,700

OCT. 28.—By the *Teutonic*=Liverpool:

W. D. Brown & Co.	10,000
George A. Alden & Co.	6,900
Total	16,900

OCT. 28.—By the *Manitoba*=London:

Reimers & Meyer.	2,500

OCT. 30.—By the *Prussia*=Hamburg:

Reimers & Meyer.	6,000

OCT. 30.—By the *Campania*=Liverpool:

Reimers & Meyer.	20,000
George A. Alden & Co.	10,000
Sgal & Co.	12,000
Total	42,000

Total Africans for October.	419,300
Total for September.	287,800
Total for August.	168,600
Total for July.	234,300
Total for June.	393,300
Total for May.	693,800
Total for April.	315,300
Total for March.	775,100
Total for February.	316,360
Total for January.	424,900

EAST INDIAN.

POUNDS.

OCT. 6.—By the *Mohawk*=London:

Reimers & Meyer.	4,400

OCT. 17.—By the *Strathnevis*=Singapore:

Robert Soltau & Co.	7,600

OCT. 26.—By the *Furnessia*=Glasgow:

George A. Alden & Co.	500

Total East Indian for October.	12,500
Total for September.	171,800
Total for August.	418,300
Total for July.	53,900
Total for June.	130,900
Total for May.	576,500
Total for April.	522,400
Total for March.	310,100
Total for February.	265,600
Total for January.	315,400

RECAPITULATION.

POUNDS.

Pará—direct imports.	1,671,200
Pará—via Europe.	99,500
Centrals.	180,462
Africans.	499,300
East Indian.	12,500
Total at New York for October.	2,463,162
Total for September.	1,976,893
Total for August.	1,659,815
Total for July.	1,306,244
Total for June.	1,280,587
Total for May.	3,171,726
Total for April.	3,271,311
Total for March.	4,192,224
Total for February.	2,840,862
Total for January.	2,823,537

BOSTON ARRIVALS.

POUNDS.

OCT. 2.—By the *Sylvania*=Liverpool:

Reimers & Meyer—Africans.	8,000

OCT. 4.—By the *Virginian*=London:

George A. Alden & Co.—East Indian.	6,800

OCT. 4.—By the *Servia*=Liverpool:

George A. Alden & Co.—Africans.	5,900
Sgal & Co.—Africans.	15,000
Reimers & Meyer—Africans.	4,000

OCT. 12.—By the *Galileo*=London:

Reimers & Meyer—East Indian.	7,500

OCT. 12.—By the *Scythia*=Liverpool:

Sgal & Co.—Africans.	500

OCT. 13.—By the *Michigan*=Liverpool:

George A. Alden & Co.—Africans.	12,800

OCT. 16.—By the *Bostonian*=London:

Reimers & Meyer—Africans.	10,000

OCT. 24.—By the *Rhaetia*:

George A. Alden & Co.—Africans.	9,100

Total at Boston for October.	79,600
Total for September.	45,380
Total for August.	7,000
Total for July.	419,180
Total for June.	35,770
Total for May.	69,890
Total for April.	122,050
Total for March.	209,601
Total for February.	210,000
Total for January.	72,800

NEW ORLEANS.

OCTOBER.

	POUNDS.	VALUE.
Honduras	750	$ 297
Nicaragua.	26,645	15,035
Total.	27,395	$15,332